

U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION VII

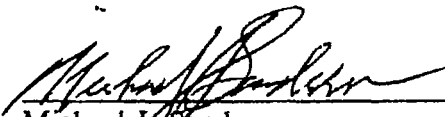
FIVE-YEAR REVIEW REPORT
FOR
AIDEX CORPORATION SITE
COUNCIL BLUFFS, IOWA

Site:	Aidex Corp
ID#:	EAD042581256
Block:	3.0
Other:	
0706 4-6-98	

LV

U. S. Environmental Protection Agency
726 Minnesota Avenue
Kansas City, Kansas 66101

March 1998



Michael J. Sanderson
Director, Superfund Division



Date

40261810



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ACRONYMS

Aidex	Aidex Corporation
ARARs	Applicable or Relevant and Appropriate Requirements
ATSDR	Agency for Toxic Substances and Disease Registry
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
FS	Feasibility Study
IDNR	Iowa Department of Natural Resources
IRM	initial remedial measure
MCL	maximum contaminant level
NCP	National Oil and Hazardous Substance Pollution Contingency Plan
NPL	National Priorities List
ppb	parts per billion
ppm	parts per million
RA	Remedial Action
RCRA	Resource Conservation and Recovery Act
RI	Remedial Investigation
ROD	Record of Decision
USEPA	U. S. Environmental Protection Agency

1.0 INTRODUCTION

This report documents the second Five-Year Review of the Aidex Corporation site (Aidex), Council Bluffs, Iowa. A Five-Year Review of the site was conducted to determine if the remedial action (RA) taken at the site remains protective of human health and the environment. Section 121(c) of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), Superfund Amendment and Reauthorization Act (SARA) and Section 300.430 (f) (4) (ii) of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) require that periodic (at least once every five years) reviews be conducted at sites where hazardous substances, pollutants, or contaminants remain at the site above levels that allow for unlimited use or unrestricted exposure following the completion of remedial action. All decisions for response actions at the Aidex Site were completed by 1984, prior to any requirements for a five-year review under CERCLA, SARA or the NCP. However, as a matter of policy, the USEPA conducts five-year reviews at sites addressed prior to SARA where hazardous substances, pollutants, or contaminants remain at the site that does not allow unlimited use and unrestricted exposure. The five-year review at the Aidex site is being conducted as a policy review. Per the OSWER Directive 9355.7-02A, Supplemental Five-Year Review Guidance, Policy Five-Year Reviews are required to be completed every five years subsequent to the completion of physical construction at the site. The last Five-Year Review at the Aidex site was completed in June 1993.

The Five-Year Review was conducted by the lead agency which is the USEPA with support provided by CDM Federal Program Corporation under the Response Action Contract.

This Five-Year Review was conducted in accordance with the USEPA guidance documents: "Structure and Components of Five Year Reviews," May 23, 1991; "Supplemental Five-Year Review Guidance," July 26, 1994; and "Second Supplemental Five-Year Review Guidance," December 21, 1995. The guidance documents specify three levels of review for the five-year reviews: Level I, Level II, and Level III. Level III is the most stringent level of review

for protectiveness appropriate for sites where the RA may no longer be protective of human health or the environment. Level I is the least stringent level of review, appropriate for most sites where the RA is believed to have remained protective of human health and the environment. Aidex is receiving a Level I review because site conditions do not suggest a need for a more in-depth review of the protectiveness of the remedy.

2.0 SITE BACKGROUND

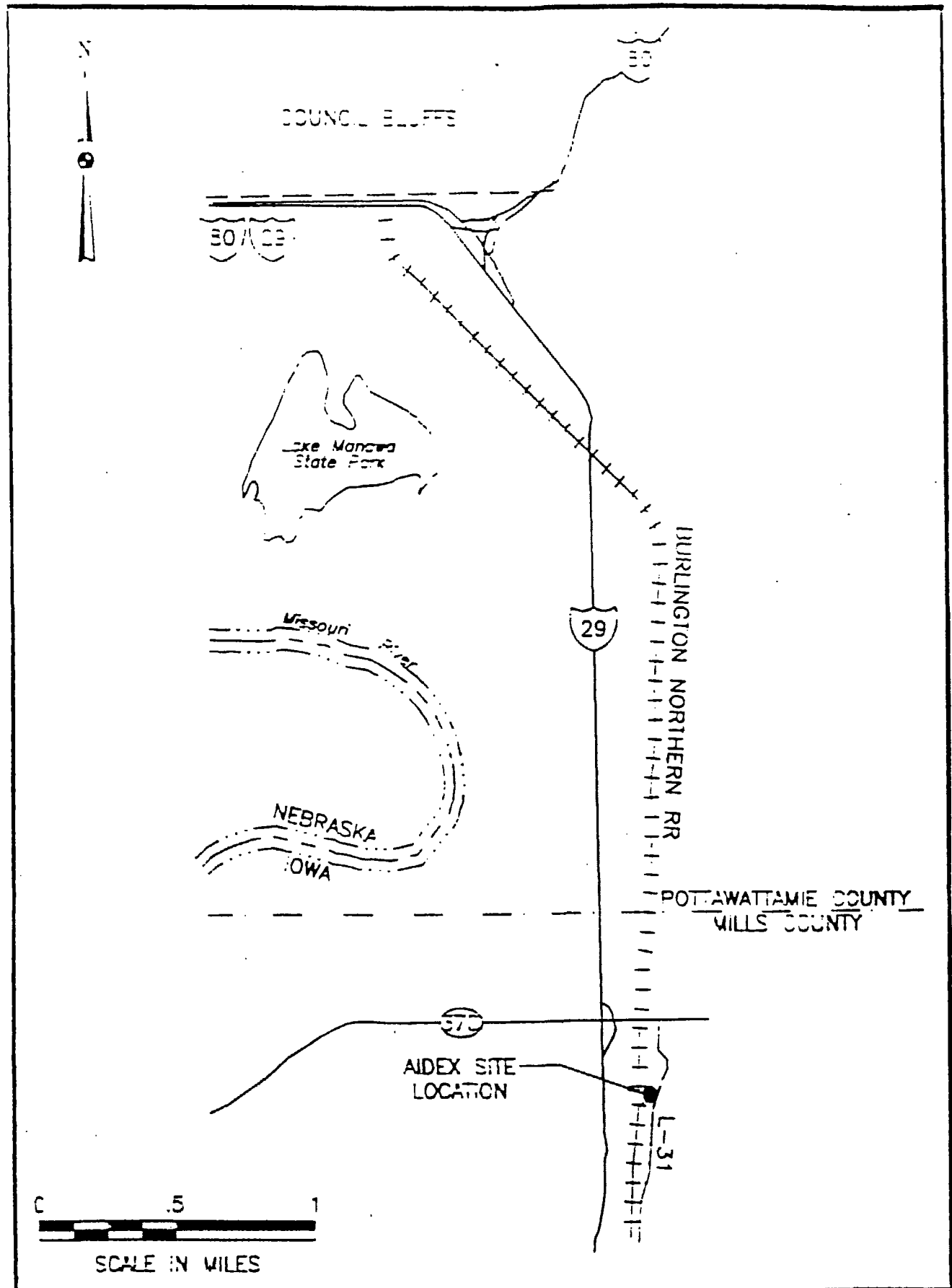
The Aidex site is an abandoned pesticide formulation facility, located about seven miles southeast of Council Bluffs, Iowa, in Mills County. The total site covers about twenty acres of the Missouri River flood plain. The distance to the Missouri River channel is about three miles. The property is bounded on the west by Highway L31, the north and east by a county road, and on the south by a cultivated field (Figure 2-1). Forty two (42) shallow domestic water wells have been identified within a two mile radius of the site, and two residences are located within 1/4 mile of the site.

The Aidex site contains four main buildings totaling 66,000 square feet of space (Figure 2-2). As a formulator of various organochlorine, organophosphate, and triazine pesticide compounds, Aidex received bulk quantities of concentrated pesticides from 1974 to 1981. To create saleable products, Aidex mixed the pesticides with various inert materials, solvents, oils, synergists and perfumes.

Spills of technical grade pesticides during transfer of the material from tank cars to formulation equipment and the procedures used by Aidex for handling, storage and disposal of process wastes resulted in the release of at least sixteen pesticide compounds into the environment. Liquid process wastes were stored in a leaking underground storage tank. Dry solid pesticide wastes were stored onsite in stacks of open and/or badly deteriorated drums and were buried in two unlined trenches onsite.

In November 1976, a fire destroyed the liquid formulation building at the facility. Pesticides were spread by the estimated 100,000 gallons of water used to fight the plant fire, contaminating drainage ways and property.

During a July 1981 bankruptcy sale held at the site to liquidate the assets of Aidex, ethoprop (Mocap) dust was spilled during an attempted removal of a baghouse dust collector,



1040 (A/E) A00700101.DOC

Aidex Site
Council Bluffs, Iowa

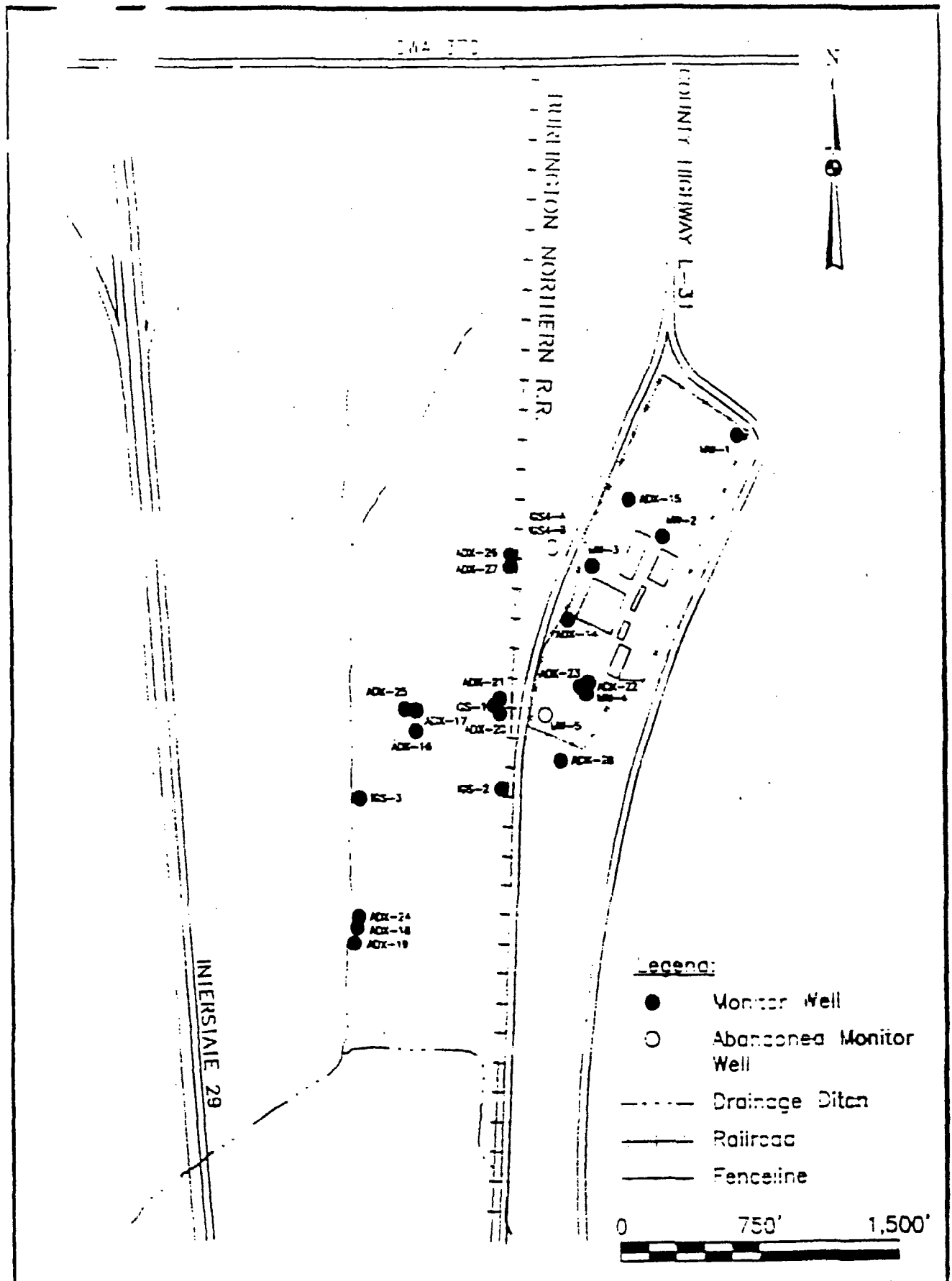
CDM Federal Programs Corporation
a subsidiary of CDMC America & Global Inc.

Site Location Map

Figure No.

2-1

10/97



10/97

Aider Site
Council Bluffs, Iowa

CDM Federal Programs Corporation
A subsidiary of CDM Group, Inc.

Site Map

Figure No.

2-2

10/97

which resulted in two workmen being hospitalized with organophosphate poisoning. It was also noted that two large metal tanks were drained into a concrete-lined pit at the site of the former atrazine formulation building. These two incidents were believed to be contributing factors to the contaminated conditions at the site.

The site was placed on the Interim Priorities List on October 23, 1981. During December of 1981, the site was fenced off using removal authority. The site was then placed on the proposed National Priorities List (NPL) on December 30, 1982 (Federal Register Volume 47, Number 251). On September 8, 1983, the NPL designation became final (Federal Register Volume 48, Number 175). The principal threats posed by the site were direct contact (ingestion, inhalation and dermal) by humans and wildlife with pesticide-contaminated soil and wastes located at the site. The pesticide-contaminated solids, liquids, and sludges were also a source for continued groundwater contamination.

3.0 SUMMARY OF RESPONSE ACTIONS

A remedial investigation/feasibility study (RI/FS) was performed by the USEPA between 1982 and 1984. During the RI/FS, an initial remedial measure (IRM) was conducted to remove some immediate hazards associated with the pesticide contamination.

The IRM consisted of onsite collection, bulking, and temporary staging of pesticide-contaminated solids, liquids, and sludges, construction of an interceptor drainage ditch around a portion of the site, decontamination of the basement remains of the building destroyed by fire and an underground tank, and offsite transport and disposal of bulk liquid wastes and staged waste materials. The IRM was completed in 1983.

A Record of Decision (ROD) was issued by the USEPA on September 24, 1984, that detailed the selection of a remedial alternative for final cleanup of the Aidex site. The remedial action was initiated in 1986 and consisted of excavation and offsite disposal of contaminated soils exceeding 10 parts per million (ppm) total pesticides and backfilling with clean fill, cleanup of the four onsite buildings and a batching pit, construction of three groundwater monitoring wells, and groundwater monitoring.

3.1 EXCAVATION OF CONTAMINATED SOILS

The construction activities were completed in May 1987. Over 20,000 yd³ of contaminated soil were excavated and disposed at a Resource Conservation and Recovery Act (RCRA) permitted offsite landfill. The excavated areas were backfilled with clean fill, graded, and seeded.

3.2 BUILDING CLEANUP

Based on sampling of the building interiors completed in 1987 and 1988, the USEPA determined that further evaluation of the buildings was necessary to determine if cleanup actions were complete. An engineering evaluation/cost analysis (EE/CA) was prepared by the USEPA and released for public comment in November 1990. From comments received from the public and recommendations from the Agency for Toxic Substances and Disease Registry, it was determined that air sampling inside the buildings was necessary to decide on the appropriate remediation. Results of 1991 air sampling of the building interiors showed that there were no significant risks posed by the residual contamination in the buildings. Therefore, no further response actions were needed on the buildings at the Aidex site.

3.3 MONITORING WELLS INSTALLATION AND GROUNDWATER MONITORING

The Iowa Department of Natural Resources (IDNR) performed annual groundwater monitoring of 28 monitoring wells at the site. In May 1990, the IDNR prepared a report on the assessment of groundwater at the Aidex site. The results of the monitoring indicated that the pesticide concentration steadily decreased with time in the onsite wells. Based on this information, the IDNR requested to reduce the number of wells to 12 for annual sampling with an additional two monitoring wells being sampled every three years. The USEPA approved the revised monitoring plan and the IDNR continues to conduct the annual sampling of the groundwater monitoring wells.

In September 1991, an Explanation of Significant Differences (ESD) was prepared by the USEPA outlining the decision of no further action on the groundwater. The ESD explained that the contaminant concentrations in the groundwater do not currently pose any risks. Monitoring of the groundwater was established to be continued until the concentration of atrazine decreased to less than the federal maximum contaminant level (MCL) of 3 ppb.

Thirteen groundwater monitoring wells are included in the current Aidex groundwater monitoring plan. The IDNR has conducted annual groundwater sampling for the five-year period reviewed for this report. Wells were sampled in May 1993, July 1994, June 1995, May 1996, and June 1997. The wells originally included in the monitoring effort included MW-1 through MW-5, ADX-14, ADX-15, ADX-20 through ADX-23, ADX-26, and ADX-27. In October 1994, the IDNR approved the abandoning of three monitoring wells at the Aidex site: IGS-4A, IGS-4B, and MW-5. Of these, only MW-5 was included in the monitoring program. The IDNR substituted IGS-1A for this well in 1995 and subsequent sampling events.

During the last five years atrazine was detected in the groundwater of onsite wells at concentrations above the current federal MCL. Contamination of atrazine was not detected in any of the offsite wells. Table 3-1 provides a summary of the atrazine concentrations over the last five years. However, since the concentration of atrazine is above the federal MCL of 3 ppb, monitoring of the groundwater will continue until the atrazine levels fall below the MCL. The groundwater monitoring data for the last five years is attached to this report as Attachment 1.

3.4 ADDITIONAL RESPONSE ACTION ACTIVITIES

The State of Iowa has also implemented institutional controls on the site limiting changes in land use by placing the site on a State registry. The Aidex site has been on the State of Iowa's *Registry of Hazardous Waste or Hazardous Substances Disposal Sites* as the "Toy National Bank and City of Glenwood Site" since 1984. The site is currently classified on the *Registry* as a Class "d" site properly closed and requires continued management. Iowa Code section 455B.430 describes the authority of the IDNR with respect to use and transfer of sites on the *Registry of Hazardous Waste or Hazardous Substances Disposal Sites*. There are no specific restrictions. In summary, a person shall not substantially change the manner in which a *Registry* site is used or sell or transfer title of a *Registry* site without written approval of the Director of the IDNR. A copy of the IDNR 1996 Annual Report, Registry of

Hazardous Waste or Hazardous Substance Disposal Sites & Hazardous Waste Remedial Fund is attached to this report as Attachment 2.

3.5 SITE OWNERSHIP

In November 1993, the IDNR approved the sale of the property to the Omaha Processing Equipment Company (OPEC). The IDNR requested that the owner maintain and protect the current monitoring wells and that IDNR be allowed access to the property to collect samples. OPEC sold refurbished, used meat processing equipment. The Aidex site was used as a warehouse and showcase for the equipment.

In June 1997, the IDNR approved a request from Alsama, an Iowa general partnership, to lease the site from OPEC. The IDNR requested well protection and site access. In addition, IDNR also advised that the shallow wells not be used for water supply. As of the site visit in September 1997, Alsama had made some site improvements, but had not yet occupied the facility. A copy of the correspondence between the IDNR authorizing the change in site ownership is attached to this report as Attachment 3.

TABLE 3-1
Atrazine Concentrations (ug/L)
Aidex Corporation Site
Council Bluffs, Iowa

<i>Sample Date:</i> <i>Monitoring Well</i>	<i>May-93</i>	<i>July -94</i>	<i>June-95</i>	<i>May-96</i>	<i>June-97</i>
MW-1	0.1U	NS	NS	0.1U	0.1U
MW-2	75	290	86	69	38
MW-3	2.5	2.1	2.6	1.6	0.89
MW-4	1.2	1.4	0.92	2U	0.54
MW-5	3.9	2.9	NS	NS	NS
IGS-1A	NS	NS	0.1U	0.1U	0.1U
ADX-14	0.11	0.11	0.1U	0.1U	0.1U
ADX-15	3.9	1.3	5.1	2.4	0.98
ADX-17	NS	NS	0.1U	NS	NS
ADX-19	NS	NS	0.1U	NS	NS
ADX-20	0.1U	0.1U	NS	0.1U	0.1U
ADX-21	0.1U	0.1U	0.1U	0.1U	0.1U
ADX-22	0.89	1.3	0.61	0.49	0.32
ADX-23	0.1U	0.1U	0.1U	0.1U	0.1U
ADX-26	0.1U	0.1U	0.1U	0.1U	0.1U
ADX-27	0.1U	0.1U	0.1U	0.1U	0.1U

Blanks indicate well was not sampled.

NS - Not sampled

U - Undetected above the associated reporting limit.

Bolded and shaded concentrations exceed the federal MCL of 3 ug/L for atrazine.

4.0 REMEDIAL ACTION OBJECTIVES

The following RA objectives were established for the Aidex site:

- Reduce exposure to contaminated material located in onsite burial trenches.
- Reduce exposure to contaminated soils at the site.
- Reduce exposure to contaminated porous materials and dust within onsite buildings to levels acceptable to the Agency for Toxic Substances and Disease Registry (ATSDR).
- Reduce contamination of onsite groundwater.
- Reduce exposure to contaminated groundwater.

Reduction of exposure to contaminated material in burial trenches and contaminated soils were achieved by excavation and offsite disposal of contaminated soils exceeding 10 parts per million (ppm) total pesticides and backfilling with clean fill. The third objective was achieved by high pressure steam cleaning of the buildings' interiors, using detergents. Following this cleaning, sampling was done of the porous building materials in 1987 and 1988. This sampling indicated some residual contamination in the porous materials (wallboard, insulation, concrete), but air sampling of the buildings' interiors performed in 1991 demonstrated that the contamination posed no significant risks to human health or the environment.

In regard to the objective of reducing onsite groundwater contamination, the USEPA believed that by removing the source of the groundwater contamination, the contamination would naturally attenuate over time. In the ROD, the USEPA decided to postpone the decision regarding groundwater treatment pending monitoring of the groundwater after source contaminant removal. In retrospect the decision was a sound one, because only one contaminant is now being detected in the groundwater, atrazine (only in onsite wells). The concentration of atrazine in groundwater has dropped from a high of 1200 parts per billion

(ppb) in 1985 to 38 ppb in 1997. The USEPA determined in an ESD issued in 1991 that the groundwater contamination posed no significant risks to human health and the environment and no treatment would be required to address the groundwater contamination. However, groundwater monitoring will be continued until the levels of atrazine fall below the MCL of 3 ppb.

In regard to the final RA objective, no groundwater contamination was discovered offsite and no onsite water was used for consumption so there was effectively no exposure to the groundwater contamination. Shallow onsite water is prohibited from being used as a drinking water source and the restriction will continue until the MCL for atrazine is no longer exceeded. No future exposure is anticipated.

5.0 ARARs REVIEW

At the time the ROD for the Aidex site was prepared there was no specific criteria for identification of applicable or relevant and appropriate requirements (ARARs). Therefore, an identification of ARARs was not conducted for the Aidex site as part of the ROD. However, the USEPA as part of this five year review identified potential requirements that currently may be applicable or relevant and appropriate and determined if the conditions at the site were in compliance with these requirements. Two very similar ARARs were identified that impacted the conditions and future activities at the Aidex site, the MCL for the contaminant atrazine of 3 ppb and a state groundwater action level of 3 ppb in the Iowa Administrative Code [567], Chapter 133; Rules for Determining Cleanup Actions and Responsible Parties. The past remedial actions and ongoing monitoring satisfy the requirements of Chapter 133 of the Iowa Code and the MCL.

6.0 SUMMARY OF SITE VISITS

The Aidex site was visited on October 2, 1997, by a representative from each of the following entities: USEPA, IDNR, and CDM Federal Programs Corporation. The purpose of the site visit was to review the site conditions at the Aidex site and determine whether site conditions had changed since the last Five-Year Review was completed. A summary of the site visit is found in the trip report provided as Attachment 4.

7.0 AREAS OF NON-COMPLIANCE

No deficiencies or deterioration in the Response Actions for the site were found in this second five-year review.

No deterioration in groundwater quality has been observed. As mentioned previously, the only contaminant currently being detected in the groundwater is atrazine and the concentration has decreased over the last five years.

As mentioned previously, the site is located in a rural setting. The closest neighbor to the site is nearly ½ mile away. Since there is no offsite contamination in the groundwater and the pesticide source has been removed, there are no significant risks posed to any nearby residents.

Since the site has been occupied by one business and will soon be leased to a second business, the condition of the facilities has improved. The buildings are currently being remodeled and a new parking area was constructed south of the main building. The occupancy of this site has improved the site conditions over the last five years.

The soil and vegetative cover are intact. Land use has continued to be industrial.

8.0 STATEMENT OF PROTECTIVENESS

The response actions completed by the USEPA together with the long-term maintenance and monitoring being provided by the IDNR and local authorities continue to protect human health, welfare, and the environment at this site. No new or significant information was discovered during this review to indicate that the remedy does not continue to be protective.

9.0 RECOMMENDATIONS

In addition to the site visits, the following documents, data and information were reviewed in completing the five-year review;

- Initial Five-Year Review Report
- The Final Remedial Action Report
- The ROD, in which the USEPA determined the final response actions at the site, including all attachments
- The Final Closeout Report
- Historical and current analytical data on the site including the most recent analytical data on the groundwater samples collected by the IDNR since the completion of the initial five-year report
- IDNR 1996 Annual Report, Registry of Hazardous Waste or Hazardous Substance Disposal Sites & Hazardous Waste Remedial Fund
- IDNR Correspondence regarding change of site ownership.
- USEPA guidance for conducting five-year reviews and other guidance and regulations to determine if any new ARARs relating to the protectiveness of the remedy have been developed since the USEPA completed the remedy in 1987.

In addition, the USEPA consulted with the Iowa Department of Natural Resources and local authorities both before and after initiating the five-year review to solicit their opinions.

Based on the site visit and document review, the only recommendations identified for the Aidex site are continued monitoring of the groundwater. The current procedures, as outlined in the 1990 USEPA approved IDNR groundwater report for continued groundwater monitoring, will be adequate to maintain protectiveness at the site, and in fact, a reduction in the level of monitoring may be appropriate given the fact that atrazine contamination continues to decrease through natural attenuation and contamination is not moving off-site. The

monitoring will need to continue until the atrazine concentrations fall below the MCL of 3 ppb. Groundwater monitoring is a well established technology so no technological problems are anticipated. No other recommendations or actions are necessary at this time.

10.0 NEXT REVIEW

The USEPA believes that five-year reviews will continue to be necessary at this site, since hazardous substances, pollutants or contaminants remain at the site above levels that allow for unlimited use or unrestricted exposure. Accordingly, the USEPA plans to perform another five-year review in 2002.

The USEPA will inform the public of its determination that a Five-Year Review is appropriate and make this Five-Year Review Report available to the public for review through the administrative record file for the site.

11.0 REFERENCES

Sverdrup Environmental, Inc. 1997. Work Plan for Aidex Five-Year Review. September 3.

CDM Federal Programs Corporation. 1997. Draft Five-Year Review Report for Aidex Corporation. October 30.

U. S. Environmental Protection Agency (USEPA). 1984. Record of Decision. Aidex Corporation, Council Bluffs, Iowa.

U. S. Environmental Protection Agency (EPA). 1991. Final Remedial Action Report for Ground Water Aidex Site, Council Bluffs, Iowa. September 30.

U. S. Environmental Protection Agency (USEPA). 1991. Final Draft Explanation of Significant Differences. September 10.

U. S. Environmental Protection Agency (USEPA). 1991. Structure and Components of Five-Year Reviews. May 23.

U. S. Environmental Protection Agency (USEPA). 1993. Five-Year Review Report. Aidex Corporation, Council Bluffs, Iowa.

U. S. Environmental Protection Agency (USEPA). 1994. Supplemental Five-Year Review Guidance. July 26.

U. S. Environmental Protection Agency (USEPA). 1995. Second Supplemental Five-Year Review Guidance. December 21.

ATTACHMENT 1

Groundwater Monitoring Data



Hygienic Laboratory

The University of Iowa

Date of report: 06-26-1997

|||||.....
BOB DRUSTRUP
DNR SOLID WASTE SECTION
WALLACE STATE OFFICE BLDG
900 EAST GRAND AVENUE
DES MOINES IA 50319

Sample Number	9703905
Date Received	06-11-1997
Project	WMSF
Date Collected	06-10-1997 09:30
Collection Site	aidex/mw-1
Collection Town	Council Bluffs
Description	water
Reference	
Collector	DRUSTRUP ROBERT D
Phone	(515) 281-8900
PWS Id & Type	
Purchase Order	

Comments

Cost Center #7335 Activity Code #1324

Results of Analyses

Nitrogen Containing Herbicides in Water

Analyte	Concentration ug/L	Quantitation Limit
Atrazine	<0.1	0.1
Cyanazine (Bladex)	<0.1	0.1
Metolachlor (Dual)	<0.1	0.1
Alachlor (Lasso)	<0.1	0.1
Metribuzin (Sencor)	<0.1	0.1
Burylate (Sutan)	<0.1	0.1
Trifluralin (Treflan)	<0.1	0.1
Acetochlor	<0.1	0.1
Desethyl Atrazine	<0.1	0.1
Desisopropyl Atrazine	<0.1	0.1

Date Analyzed: 06-23-1997

Method: EPA 507/8141

Date Extracted: 06-16-1997

Extraction Method: EPA 507/3510

Analyst: PB

Verified: DLZ

Analyst: GJMCKB

Verified: MK

Description of units used within this report

ug/L - Micrograms per Liter

Quant Limit - Lowest concentration reliably measured

Iowa Laboratory Certification No. 027. AIHA, ICR, NVLAP, USEPA and other credentials available upon request.

If you have any questions please call Sherri Marine at 800/421-IOWA (4692) or 319/335-4500. Thank you.



Hygienic Laboratory

The University of Iowa

Date of report: 06-26-1997

|||||.....|||.....|||.....|||
BOB DRUSTRUP
DNR SOLID WASTE SECTION
WALLACE STATE OFFICE BLDG
900 EAST GRAND AVENUE
DES MOINES IA 50319

Sample Number	9703906
Date Received	06-11-1997
Project	WMSF
Date Collected	06-10-1997 08:55
Collection Site	aidex/mw-2
Collection Town	Council Bluffs
Description	water
Reference	
Collector	DRUSTRUP ROBERT D
Phone	(515) 281-8900
PWS Id & Type	
Purchase Order	

Comments | Cost Center #7335..Activity Code #1324

Results of Analyses

Nitrogen Containing Herbicides in Water

Analyte	Concentration ug/L	Quantitation Limit
Atrazine	38	0.5
Cyanazine (Bladex)	<0.5	0.5
Metolachlor (Dual)	<2	2
Alachlor (Lasso)	<2	2
Metribuzin (Sencor)	<1	1
Butylate (Sutan)	<1	1
Trifluralin (Treflan)	<1	1
Acetochlor	<2	2
Desethyl Atrazine	<0.5	0.5
Desisopropyl Atrazine	<0.5	0.5
Propazine	2.6	0.5
Prometon	0.90	0.5

Date Analyzed: 06-19-1997
Method: EPA 507/8141
Date Extracted: 06-16-1997
Extraction Method: EPA 507/3510

Analyst: PB
Verified: DLZ
Analyst: GJMKKB
Verified: MK

Description of units used within this report

ug/L - Micrograms per Liter

Quant Limit - Lowest concentration reliably measured

Iowa Laboratory Certification No. 027. AIHA, ICR, NVLAP, USEPA and other credentials available upon request.

If you have any questions please call Sherri Marine at 800/421-IOWA (4692) or 319/335-4500. Thank you.



Hygienic Laboratory

The University of Iowa

Date of report: 06-26-1997

|||||.....
BOB DRUSTRUP
DNR SOLID WASTE SECTION
WALLACE STATE OFFICE BLDG
900 EAST GRAND AVENUE
DES MOINES IA 50319

Sample Number 9703907
Date Received 06-11-1997
Project WMSF
Date Collected 06-10-1997 08:55
Collection Site aidex/mw-2d
Collection Town Council Bluffs
Description water
Reference
Collector DRUSTRUP ROBERT D
Phone (515) 281-8900
PWS Id & Type
Purchase Order

Duplicate

Comments Cost Center #7335, Activity Code #1324

Results of Analyses

Nitrogen Containing Herbicides in Water

Analyte	Concentration ug/L	Quantitation Limit
Atrazine	40	0.5
Cyanazine (Bladex)	<0.5	0.5
Metolachlor (Dual)	<2	2
Alachlor (Lasso)	<2	2
Metribuzin (Sencor)	<1	1
Butylate (Sutan)	<1	1
Trifluralin (Treflan)	<1	1
Acetochlor	<2	2
Desethyl Atrazine	<0.5	0.5
Desisopropyl Atrazine	<0.5	0.5
Propazine	2.9	0.5
Prometon	0.83	0.5

Date Analyzed: 06-19-1997
Method: EPA 507/8141
Date Extracted: 06-16-1997
Extraction Method: EPA 507/3510

Analyst: PB
Verified: DLZ
Analyst: GJMKKB
Verified: MK

Description of units used within this report

ug/L - Micrograms per Liter

Quant Limit - Lowest concentration reliably measured

Iowa Laboratory Certification No. 027. AIHA, ICR, NVLAP, USEPA and other credentials available upon request.

If you have any questions please call Sherri Marine at 800/421-IOWA (4692) or 319/335-4500. Thank you.



Hygienic Laboratory

The University of Iowa

Date of report: 06-26-1997

|||||.....|||.....|||
BOB DRUSTRUP
DNR SOLID WASTE SECTION
WALLACE STATE OFFICE BLDG
900 EAST GRAND AVENUE
DES MOINES IA 50319

Sample Number	9703908
Date Received	06-11-1997
Project	WMSF
Date Collected	06-10-1997 08:15
Collection Site	aidex/mw-3
Collection Town	Council Bluffs
Description	water
Reference	
Collector	DRUSTRUP ROBERT D
Phone	(515) 281-8900
PWS Id & Type	
Purchase Order	

Comments

Cost Center #7335 Activity Code #1324

Results of Analyses

Nitrogen Containing Herbicides in Water

Analyte	Concentration ug/L	Quantitation Limit
Atrazine	0.89	0.1
Cyanazine (Bladex)	<0.1	0.1
Metolachlor (Dual)	<0.1	0.1
Alachlor (Lasso)	<0.1	0.1
Metribuzin (Sencor)	<0.1	0.1
Burlyate (Sutan)	<0.1	0.1
Trifluralin (Treflan)	<0.1	0.1
Acetochlor	<0.1	0.1
Desethyl Atrazine	<0.1	0.1
Desisopropyl Atrazine	<0.1	0.1
Prometon	0.12	0.1

Date Analyzed: 06-23-1997

Method: EPA 507/8141

Date Extracted: 06-16-1997

Extraction Method: EPA 507/3510

Analyst: PB

Verified: DLZ

Analyst: GJMKKB

Verified: MK

Description of units used within this report

ug/L - Micrograms per Liter

Quant Limit - Lowest concentration reliably measured

Iowa Laboratory Certification No. 027. AIHA, ICR, NVLAP, USEPA and other credentials available upon request.

If you have any questions please call Sherri Marine at 800/421-IOWA (4692) or 319/335-4500. Thank you.



Hygienic Laboratory

The University of Iowa

Date of report: 06-26-1997

|||||.....|.....|.....|
BOB DRUSTRUP
DNR SOLID WASTE SECTION
WALLACE STATE OFFICE BLDG
900 EAST GRAND AVENUE
DES MOINES IA 50319

Sample Number	9703909
Date Received	06-11-1997
Project	WMSF
Date Collected	06-09-1997 16:25
Collection Site	aidex/mw-4
Collection Town	Council Bluffs
Description	water
Reference	
Collector	DRUSTRUP ROBERT D
Phone	(515) 281-8900
PWS Id & Type	
Purchase Order	

Comments

Cost Center #7335, Activity Code #1324

Results of Analyses

Nitrogen Containing Herbicides in Water

Analyte	Concentration ug/L	Quantitation Limit
Atrazine	0.54	0.3
Cyanazine (Bladex)	<0.3	0.3
Metolachlor (Dual)	<0.5	0.5
Alachlor (Lasso)	<0.5	0.5
Metribuzin (Sencor)	<0.5	0.5
Burylate (Sutan)	<0.5	0.5
Trifluralin (Treflan)	<0.5	0.5
Acetochlor	<0.5	0.5
Desethyl Atrazine	<0.3	0.3
Desisopropyl Atrazine	<0.3	0.3
Prometon	0.60	0.3

Date Analyzed: 06-23-1997

Method: EPA 507/8141

Date Extracted: 06-16-1997

Extraction Method: EPA 507/3510

Analyst: PB

Verified: DLZ

Analyst: GJMKKB

Verified: MK

Description of units used within this report

ug/L - Micrograms per Liter

Quant Limit - Lowest concentration reliably measured

Iowa Laboratory Certification No. 027. AIHA, ICR, NVLAP, USEPA and other credentials available upon request.

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Hygienic Laboratory

The University of Iowa

Date of report: 06-26-1997

|||||.....|||||.....
BOB DRUSTRUP
DNR SOLID WASTE SECTION
WALLACE STATE OFFICE BLDG
900 EAST GRAND AVENUE
DES MOINES IA 50319

Sample Number 9703910
Date Received 06-11-1997
Project WMSF
Date Collected 06-09-1997 14:05
Collection Site aidex/igs-ia
Collection Town Council Bluffs
Description water
Reference
Collector DRUSTRUP ROBERT D
Phone (515) 281-8900
PWS Id & Type
Purchase Order

IGS-1A

Comments

Cost Center #7335, Activity Code #1324

Results of Analyses

Nitrogen Containing Herbicides in Water

Analyte	Concentration ug/L	Quantitation Limit
Atrazine	<0.1	0.1
Cyanazine (Bladex)	<0.1	0.1
Metolachlor (Dual)	<0.1	0.1
Alachlor (Lasso)	<0.1	0.1
Metribuzin (Sencor)	<0.1	0.1
Butylate (Sutan)	<0.1	0.1
Trifluralin (Treflan)	<0.1	0.1
Acetochlor	<0.1	0.1
Desethyl Atrazine	<0.1	0.1
Desisopropyl Atrazine	<0.1	0.1

Date Analyzed: 06-23-1997
Method: EPA 507/8141
Date Extracted: 06-16-1997
Extraction Method: EPA 507/3510

Analyst: PB
Verified: DLZ
Analyst: GJM KKB
Verified: MK

Description of units used within this report

ug/L - Micrograms per Liter

Quant Limit - Lowest concentration reliably measured

Iowa Laboratory Certification No. 027. AIHA, ICR, NVLAP, USEPA and other credentials available upon request.

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Hygienic Laboratory

The University of Iowa

Date of report: 06-26-1997

|||||
BOB DRUSTRUP
DNR SOLID WASTE SECTION
WALLACE STATE OFFICE BLDG
900 EAST GRAND AVENUE
DES MOINES IA 50319

Sample Number	9703911
Date Received	06-11-1997
Project	WMSF
Date Collected	06-10-1997 09:45
Collection Site	aidex/adx-14
Collection Town	Council Bluffs
Description	water
Reference	
Collector	DRUSTRUP ROBERT D
Phone	(515) 281-8900
PWS Id & Type	
Purchase Order	

Comments

Cost Center #7335, Activity Code #1324

Results of Analyses

Nitrogen Containing Herbicides in Water

Analyte	Concentration ug/L	Quantitation Limit
Atrazine	<0.1	0.1
Cyanazine (Bladex)	<0.1	0.1
Metolachlor (Dual)	<0.1	0.1
Alachlor (Lasso)	<0.1	0.1
Metribuzin (Sencor)	<0.1	0.1
Butylate (Sutan)	<0.1	0.1
Trifluralin (Treflan)	<0.1	0.1
Acetochlor	<0.1	0.1
Desethyl Atrazine	<0.1	0.1
Desisopropyl Atrazine	<0.1	0.1

Date Analyzed: 06-23-1997

Method: EPA 507/8141

Date Extracted: 06-16-1997

Extraction Method: EPA 507/3510

Analyst: PB

Verified: DLZ

Analyst: GJMKKB

Verified: MK

Description of units used within this report

ug/L - Micrograms per Liter

Quant Limit - Lowest concentration reliably measured

Iowa Laboratory Certification No. 027. AIHA, ICR, NVLAP, USEPA and other credentials available upon request.

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Hygienic Laboratory

The University of Iowa

Date of report: 06-26-1997

|||||.....
BOB DRUSTRUP
DNR SOLID WASTE SECTION
WALLACE STATE OFFICE BLDG
900 EAST GRAND AVENUE
DES MOINES IA 50319

Sample Number	9703912
Date Received	06-11-1997
Project	WMSF
Date Collected	06-10-1997 09:00
Collection Site	aidex/adx-15
Collection Town	Council Bluffs
Description	water
Reference	
Collector	DRUSTRUP ROBERT D
Phone	(515) 281-8900
PWS Id & Type	
Purchase Order	

Comments

Cost Center #7335 Activity Code #1324

Results of Analyses

Nitrogen Containing Herbicides in Water

Analyte	Concentration ug/L	Quantitation Limit
Atrazine	0.98	0.1
Cyanazine (Bladex)	<0.1	0.1
Metolachlor (Dual)	<0.1	0.1
Alachlor (Lasso)	<0.1	0.1
Metribuzin (Sencor)	<0.1	0.1
Burylate (Sutan)	<0.1	0.1
Trifluralin (Treflan)	<0.1	0.1
Acetochlor	<0.1	0.1
Desethyl Atrazine	<0.1	0.1
Desisopropyl Atrazine	<0.1	0.1
Prometon	0.25	0.1

Date Analyzed: 06-24-1997

Method: EPA 507/8141

Date Extracted: 06-16-1997

Extraction Method: EPA 507/3510

Analyst: PB

Verified: DLZ

Analyst: GJMKKB

Verified: MK

Description of units used within this report

ug/L - Micrograms per Liter

Quant Limit - Lowest concentration reliably measured

Iowa Laboratory Certification No. 027. AIHA, ICR, NVLAP, USEPA and other credentials available upon request.

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Hygienic Laboratory

The University of Iowa

Date of report: 06-26-1997

|||||.....|||||.....
BOB DRUSTRUP
DNR SOLID WASTE SECTION
WALLACE STATE OFFICE BLDG
900 EAST GRAND AVENUE
DES MOINES IA 50319

Sample Number 9703913
Date Received 06-11-1997
Project WMSF
Date Collected 06-10-1997 08:25
Collection Site aidex/adx-151f (low-flow)
Collection Town Council Bluffs (purgings)
Description water
Reference
Collector DRUSTRUP ROBERT D
Phone (515) 281-8900
PWS Id & Type
Purchase Order

Comments

Cost Center #7335, Activity Code #1324

Results of Analyses

Nitrogen Containing Herbicides in Water

Analyte	Concentration ug/L	Quantitation Limit
Atrazine	2.3	0.1
Cyanazine (Bladex)	<0.1	0.1
Metolachlor (Dual)	<0.1	0.1
Alachlor (Lasso)	<0.1	0.1
Metribuzin (Sencor)	<0.1	0.1
Butylate (Sutan)	<0.1	0.1
Trifluralin (Treflan)	<0.1	0.1
Acetochlor	<0.1	0.1
Desethyl Atrazine	<0.1	0.1
Desisopropyl Atrazine	<0.1	0.1
Prometon	0.44	0.1

Date Analyzed: 06-21-1997

Method: EPA 507/8141

Date Extracted: 06-16-1997

Extraction Method: EPA 507/3510

Analyst: PB

Verified: DLZ

Analyst: GJMKKB

Verified: MK

Description of units used within this report

ug/L - Micrograms per Liter

Quant Limit - Lowest concentration reliably measured

Iowa Laboratory Certification No. 027. AIHA, ICR, NVLAP, USEPA and other credentials available upon request.

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Hygienic Laboratory

The University of Iowa

Date of report: 06-26-1997

|||||.....|||||.....
BOB DRUSTRUP
DNR SOLID WASTE SECTION
WALLACE STATE OFFICE BLDG
900 EAST GRAND AVENUE
DES MOINES IA 50319

Sample Number	9703914
Date Received	06-11-1997
Project	WMSF
Date Collected	06-09-1997 14:35
Collection Site	aidex/adx-20
Collection Town	Council Bluffs
Description	water
Reference	
Collector	DRUSTRUP ROBERT D
Phone	(515) 281-8900
PWS Id & Type	
Purchase Order	

Comments

Cost Center #7335, Activity Code #1324
the paperwork lists the collection time as 14:15, but the time listed
on the label is 14:35.

Results of Analyses

Nitrogen Containing Herbicides in Water

Analyte	Concentration ug/L	Quantitation Limit
Atrazine	<0.1	0.1
Cyanazine (Bladex)	<0.1	0.1
Metolachlor (Dual)	<0.1	0.1
Alachlor (Lasso)	<0.1	0.1
Metribuzin (Sencor)	<0.1	0.1
Butylate (Sutan)	<0.1	0.1
Trifluralin (Treflan)	<0.1	0.1
Acetochlor	<0.1	0.1
Desethyl Atrazine	<0.1	0.1
Desisopropyl Atrazine	<0.1	0.1

Date Analyzed: 06-21-1997
Method: EPA 507/8141
Date Extracted: 06-16-1997
Extraction Method: EPA 507/3510

Analyst: PB
Verified: DLZ
Analyst: GJMKKB
Verified: MK

Description of units used within this report

ug/L - Micrograms per Liter

Quant Limit - Lowest concentration reliably measured

Iowa Laboratory Certification No. 027. AIHA, ICR, NVLAP, USEPA and other credentials available upon request.

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Hygienic Laboratory

The University of Iowa

Date of report: 06-26-1997

|||||.....
BOB DRUSTRUP
DNR SOLID WASTE SECTION
WALLACE STATE OFFICE BLDG
900 EAST GRAND AVENUE
DES MOINES IA 50319

Sample Number	9703915
Date Received	06-11-1997
Project	WMSF
Date Collected	06-09-1997 14:15
Collection Site	aidex/adx-21
Collection Town	Council Bluffs
Description	water
Reference	
Collector	DRUSTRUP ROBERT D
Phone	(515) 281-8900
PWS Id & Type	
Purchase Order	

Comments

Cost Center #7335 Activity Code #1324

Results of Analyses

GC/MS Volatiles

Analyte	Concentration ug/L	Quantitation Limit
Tetrachloroethene	< 1	1

Date Analyzed: 06-17-1997

Analyst: FWG

Method: UHL 8260

Verified: TC

Nitrogen Containing Herbicides in Water

Analyte	Concentration ug/L	Quantitation Limit
Atrazine	< 0.1	0.1
Cyanazine (Bladex)	< 0.1	0.1
Metolachlor (Dual)	< 0.1	0.1
Alachlor (Lasso)	< 0.1	0.1
Metribuzin (Sencor)	< 0.1	0.1
Burlyate (Sutan)	< 0.1	0.1
Trifluralin (Treflan)	< 0.1	0.1
Acetochlor	< 0.1	0.1
Desethyl Atrazine	< 0.1	0.1
Desisopropyl Atrazine	< 0.1	0.1

Date Analyzed: 06-21-1997

Analyst: PB

Method: EPA 507/8141

Verified: DLZ

Date Extracted: 06-16-1997

Analyst: GJMCKB

Extraction Method: EPA 507/3510

Verified: MK

Description of units used within this report

ug/L - Micrograms per Liter

Quant Limit - Lowest concentration reliably measured

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Hygienic Laboratory

The University of Iowa

Date of report: 06-26-1997

|||||.....|||.....|||.....|||
BOB DRUSTRUP
DNR SOLID WASTE SECTION
WALLACE STATE OFFICE BLDG
900 EAST GRAND AVENUE
DES MOINES IA 50319

Sample Number 9703916
Date Received 06-11-1997
Project WMSF
Date Collected 06-09-1997 16:40
Collection Site adex/adx-22
Collection Town Council Bluffs
Description water
Reference
Collector DRUSTRUP ROBERT D
Phone (515) 281-8900
PWS Id & Type
Purchase Order

Comments

Cost Center #7335, Activity Code #1324

Results of Analyses

Nitrogen Containing Herbicides in Water

Analyte	Concentration ug/L	Quantitation Limit
Atrazine	0.32	0.2
Cyanazine (Bladex)	<0.2	0.2
Metolachlor (Dual)	<0.4	0.4
Alachlor (Lasso)	<0.4	0.4
Metribuzin (Sencor)	<0.3	0.3
Burylate (Sutan)	<0.3	0.3
Trifluralin (Treflan)	<0.3	0.3
Acetochlor	<0.4	0.4
Desethyl Atrazine	<0.2	0.2
Desisopropyl Atrazine	<0.2	0.2

Date Analyzed: 06-21-1997
Method: EPA 507/8141
Date Extracted: 06-16-1997
Extraction Method: EPA 507/3510

Analyst: PB
Verified: DLZ
Analyst: GJMKKB
Verified: MK

Description of units used within this report

ug/L - Micrograms per Liter

Quant Limit - Lowest concentration reliably measured

Iowa Laboratory Certification No. 027. AIHA, ICR, NVLAP, USEPA and other credentials available upon request.

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Hygienic Laboratory

The University of Iowa

Date of report: 06-26-1997

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BOB DRUSTRUP
DNR SOLID WASTE SECTION
WALLACE STATE OFFICE BLDG
900 EAST GRAND AVENUE
DES MOINES IA 50319

Sample Number 9703917
Date Received 06-11-1997
Project WMSF
Date Collected 06-09-1997 16:27
Collection Site aidex/adx-23
Collection Town Council Bluffs
Description water
Reference
Collector DRUSTRUP ROBERT D
Phone (515) 281-8900
PWS Id & Type
Purchase Order

Comments

Cost Center #7335, Activity Code #1324

Results of Analyses

Nitrogen Containing Herbicides in Water

Analyte	Concentration ug/L	Quantitation Limit
Atrazine	<0.1	0.1
Cyanazine (Bladex)	<0.1	0.1
Metolachlor (Dual)	<0.1	0.1
Alachlor (Lasso)	<0.1	0.1
Metribuzin (Sencor)	<0.1	0.1
Burylate (Sutan)	<0.1	0.1
Trifluralin (Treflan)	<0.1	0.1
Acetochlor	<0.1	0.1
Desethyl Atrazine	<0.1	0.1
Desisopropyl Atrazine	<0.1	0.1

Date Analyzed: 06-21-1997
Method: EPA 507/8141
Date Extracted: 06-16-1997
Extraction Method: EPA 507/3510

Analyst: PB
Verified: DLZ
Analyst: GJMKKB
Verified: MK

Description of units used within this report

ug/L - Micrograms per Liter

Quant Limit - Lowest concentration reliably measured

Iowa Laboratory Certification No. 027. AIHA, ICR, NVLAP, USEPA and other credentials available upon request.

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Hygienic Laboratory

The University of Iowa

Date of report: 06-26-1997

|||||
BOB DRUSTRUP
DNR SOLID WASTE SECTION
WALLACE STATE OFFICE BLDG
900 EAST GRAND AVENUE
DES MOINES IA 50319

Sample Number	9703918
Date Received	06-11-1997
Project	WMSF
Date Collected	06-09-1997 15:20
Collection Site	aidex/adx-26
Collection Town	Council Bluffs
Description	water
Reference	
Collector	DRUSTRUP ROBERT D
Phone	(515) 281-8900
PWS Id & Type	
Purchase Order	

Comments

Cost Center #7335, Activity Code #1324

Results of Analyses

Nitrogen Containing Herbicides in Water

Analyte	Concentration ug/L	Quantitation Limit
Atrazine	<0.1	0.1
Cyanazine (Bladex)	<0.1	0.1
Metolachlor (Dual)	<0.1	0.1
Alachlor (Lasso)	<0.1	0.1
Metribuzin (Sencor)	<0.1	0.1
Butylate (Sutan)	<0.1	0.1
Trifluralin (Treflan)	<0.1	0.1
Acetochlor	<0.1	0.1
Desethyl Atrazine	<0.1	0.1
Desisopropyl Atrazine	<0.1	0.1

Date Analyzed: 06-21-1997
Method: EPA 507/8141
Date Extracted: 06-16-1997
Extraction Method: EPA 507/3510

Analyst: PB
Verified: DLZ
Analyst: GJMKKB
Verified: MK

Description of units used within this report

ug/L - Micrograms per Liter

Quant Limit - Lowest concentration reliably measured

Iowa Laboratory Certification No. 027. AIHA, ICR, NVLAP, USEPA and other credentials available upon request.

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Hygienic Laboratory

The University of Iowa

Date of report: 06-26-1997

|||||.....
BOB DRUSTRUP
DNR SOLID WASTE SECTION
WALLACE STATE OFFICE BLDG
900 EAST GRAND AVENUE
DES MOINES IA 50319

Sample Number 9703919
Date Received 06-11-1997
Project WMSF
Date Collected 06-09-1997 15:25
Collection Site aidex/adx-27
Collection Town Council Bluffs
Description water
Reference
Collector DRUSTRUP ROBERT D
Phone (515) 281-8900
PWS Id & Type
Purchase Order

Comments

Cost Center #7335, Activity Code #1324

Results of Analyses

Nitrogen Containing Herbicides in Water

Analyte	Concentration ug/L	Quantitation Limit
Atrazine	<0.1	0.1
Cyanazine (Bladex)	<0.1	0.1
Metolachlor (Dual)	<0.1	0.1
Alachlor (Lasso)	<0.1	0.1
Metribuzin (Sencor)	<0.1	0.1
Butylate (Sutan)	<0.1	0.1
Trifluralin (Treflan)	<0.1	0.1
Acetochlor	<0.1	0.1
Desethyl Atrazine	<0.1	0.1
Desisopropyl Atrazine	<0.1	0.1

Date Analyzed: 06-21-1997
Method: EPA 507/8141
Date Extracted: 06-16-1997
Extraction Method: EPA 507/3510

Analyst: PB
Verified: DLZ
Analyst: GJMKKB
Verified: MK

Description of units used within this report

ug/L - Micrograms per Liter

Quant Limit - Lowest concentration reliably measured

Iowa Laboratory Certification No. 027. AIHA, ICR, NVLAP, USEPA and other credentials available upon request.

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Hygienic Laboratory

The University of Iowa

Date of report: 06-26-1997

|||||
BOB DRUSTRUP
DNR SOLID WASTE SECTION
WALLACE STATE OFFICE BLDG
900 EAST GRAND AVENUE
DES MOINES IA 50319

Sample Number	9703920
Date Received	06-11-1997
Project	WMSF
Date Collected	06-10-1997 09:05
Collection Site	aidex/field blank
Collection Town	Council Bluffs
Description	water
Reference	
Collector	DRUSTRUP ROBERT D
Phone	(515) 281-8900
PWS Id & Type	
Purchase Order	

Comments

Cost Center #7335, Activity Code #1324

Results of Analyses

Nitrogen Containing Herbicides in Water

Analyte	Concentration ug/L	Quantitation Limit
Atrazine	<0.1	0.1
Cyanazine (Bladex)	<0.1	0.1
Metolachlor (Dual)	<0.1	0.1
Alachlor (Lasso)	<0.1	0.1
Metribuzin (Sencor)	<0.1	0.1
Butylate (Sutan)	<0.1	0.1
Trifluralin (Treflan)	<0.1	0.1
Acetochlor	<0.1	0.1
Desethyl Atrazine	<0.1	0.1
Desisopropyl Atrazine	<0.1	0.1

Date Analyzed: 06-21-1997

Method: EPA 507/8141

Date Extracted: 06-16-1997

Extraction Method: EPA 507/3510

Analyst: PB

Verified: DLZ

Analyst: GJMCKB

Verified: MK

Description of units used within this report

ug/L - Micrograms per Liter

Quant Limit - Lowest concentration reliably measured

Iowa Laboratory Certification No. 027. AIHA, ICR, NVLAP, USEPA and other credentials available upon request.

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University Hygienic Laboratory

The University of Iowa
Oakdale Hall
Iowa City, IA 52242
319-335-4500 (FAX 335-4555)

H.A. Wallace Building
900 East Grand
Des Moines, IA 50319
515-281-5371 (FAX 243-1349)

CHAIN OF CUSTODY RECORD

Sampler:

Robert D. Diustrup

Project:

Aidex

Address:

So. of Council Bluffs

Comments:

Location	Sample ID	Date	Time	No./Type Container
MW-1		6/10/97	9:30 am	1 qt. glass
MW-2		6/10/97	8:55 am	1 qt. glass
MW-2D		6/10/97	8:55 am	1 qt. glass
MW-3		6/10/97	8:15 am	1 qt. glass
MW-4		6/9/97	4:25 pm	1 qt. glass
IGS-1A		6/9/97	2:05 pm	1 qt. glass
ADX-14		6/10/97	9:45 am	1 qt. glass
ADX-15		6/10/97	9:00 am	1 qt. glass
ADX-15LF		6/10/97	8:25 am	1 qt. glass
ADX-20		6/9/97	2:35 pm	1 qt. glass

Relinquished by (signature)

Robert D. Diustrup

Date

6/10/97

Time

2:40 pm

Received by (signature)

Relinquished by (signature)

Date

Time

Received by (signature)

Relinquished by (signature)

Date

Time

Received by (signature)

Relinquished by (signature)

Date

06/11/97
6-10-97

Time

14:30
1440

Received for Lab by:

R. White

Custody seals intact?

☐ Yes

☐ No

Sample containers intact?

☒ Yes

☐ No

Remarks:

University Hygienic Laboratory

The University of Iowa
Oakdale Hall
Iowa City, IA 52242
319-335-4500 (FAX 335-4555)

H.A. Wallace Building
900 East Grand
Des Moines, IA 50319
515-281-5371 (FAX 243-1349)

CHAIN OF CUSTODY RECORD

Sampler: <i>Robert D. Drustup</i>		Project: <i>Aidex</i>		
Address: <i>So of Council Bluffs</i>		Comments:		
Location	Sample ID	Date	Time	No./Type Container
<i>ADX-21</i>		<i>6/9/97</i>	<i>2:15 pm</i>	<i>1 qt. glass + 3-40 ml</i>
<i>ADX-22</i>		<i>6/9/97</i>	<i>4:40 pm</i>	<i>1 qt. glass</i>
<i>ADX-23</i>		<i>6/9/97</i>	<i>4:27 pm</i>	<i>1 qt. glass</i>
<i>ADX-26</i>		<i>6/9/97</i>	<i>3:20 pm</i>	<i>1 qt. glass</i>
<i>ADX-27</i>		<i>6/9/97</i>	<i>3:25 pm</i>	<i>10 qt. glass</i>
<i>Field Blank</i>		<i>6/10/97</i>	<i>9:05 am</i>	<i>1 qt. glass</i>
Relinquished by (signature) <i>Robert D. Drustup</i>		Date <i>6/10/97</i>	Time <i>2:40 pm</i>	Received by (signature)
Relinquished by (signature)		Date	Time	Received by (signature)
Relinquished by (signature)		Date	Time	Received by (signature)
Relinquished by (signature)		Date <i>06/11/97</i> <i>6-10-97</i>	Time <i>14:30</i> <i>1440</i>	Received for Lab by: <i>R. White</i>
Custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No		Sample containers intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
Remarks:				



Hygienic Laboratory

The University of Iowa

Date of report: 07-02-1996

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LAVOY HAAGE
DNR SOLID WASTE SECTION
WALLACE STATE OFFICE BLDG
900 EAST GRAND AVENUE
DES MOINES IA 50319

Sample Number	9603838
Date Received	05-30-1996
Project	WMSF
Date Collected	05-29-1996 08:25
Collection Site	aidex igs-1a
Collection Town	Council Bluffs(rural
Description	water
Reference	
Collector	DRUSTRUP ROBERT
Phone	(515) 281-8900
PWS Id & Type	
Purchase Order	

Results of Analyses

Nitrogen Containing Herbicides in Water

Analyte	Concentration ug/L	Quantitation Limit
Atrazine	<0.1	0.1
Cyanazine (Bladex)	<0.1	0.1
Metolachlor (Dual)	<0.1	0.1
Alachlor (Lasso)	<0.1	0.1
Metribuzin (Sencor)	<0.1	0.1
Butylate (Sutan)	<0.1	0.1
Trifluralin (Treflan)	<0.1	0.1
Acetochlor	<0.1	0.1
Desethyl Atrazine	<0.1	0.1
Desisopropyl Atrazine	<0.1	0.1

Date Analyzed: 06-05-1996
Method: EPA 507/8141
Date Extracted: 05-31-1996
Extraction Method: EPA 507/3510

Analyst: PJM
Verified: DLZ
Analyst: PM
Verified: MK

Description of units used within this report

ug/L - Micrograms per Liter

Quant Limit - Lowest concentration reliably measured

Coordinator of analytical services - Sherri Marine @ 319/335-4500 Ext 2260



Hygienic Laboratory

The University of Iowa

Date of report: 07-02-1996

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LAVOY HAAGE
DNR SOLID WASTE SECTION
WALLACE STATE OFFICE BLDG
900 EAST GRAND AVENUE
DES MOINES IA 50319

Sample Number	9603839
Date Received	05-30-1996
Project	WMSF
Date Collected	05-29-1996 09:45
Collection Site	aidex mw-1
Collection Town	Council Bluffs(rural
Description	water
Reference	
Collector	DRUSTRUP ROBERT
Phone	(515) 281-8900
PWS Id & Type	
Purchase Order	

Results of Analyses

Nitrogen Containing Herbicides in Water

Analyte	Concentration ug/L	Quantitation Limit
Atrazine	<0.1	0.1
Cyanazine (Bladex)	<0.1	0.1
Metolachlor (Dual)	<0.1	0.1
Alachlor (Lasso)	<0.1	0.1
Metribuzin (Sencor)	<0.1	0.1
Butylate (Sutan)	<0.1	0.1
Trifluralin (Treflan)	<0.1	0.1
Acetochlor	<0.1	0.1
Desethyl Atrazine	<0.1	0.1
Desisopropyl Atrazine	<0.1	0.1

Date Analyzed: 06-05-1996
Method: EPA 507/8141
Date Extracted: 05-31-1996
Extraction Method: EPA 507/3510

Analyst: PJM
Verified: DLZ
Analyst: PM
Verified: MK

Description of units used within this report

ug/L - Micrograms per Liter

Quant Limit - Lowest concentration reliably measured

Coordinator of analytical services - Sherri Marine @ 319/335-4500 Ext 2260



Hygienic Laboratory

The University of Iowa

Date of report: 07-02-1996

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LAVOY HAAGE
DNR SOLID WASTE SECTION
WALLACE STATE OFFICE BLDG
900 EAST GRAND AVENUE
DES MOINES IA 50319

Sample Number	9603840
Date Received	05-30-1996
Project	WMSF
Date Collected	05-28-1996 16:20
Collection Site	aidex mw-2
Collection Town	Council Bluffs(rural
Description	water
Reference	
Collector	DRUSTRUP ROBERT
Phone	(515) 281-8900
PWS Id & Type	
Purchase Order	

Results of Analyses

Nitrogen Containing Herbicides in Water

Analyte	Concentration ug/L	Quantitation Limit
Atrazine	69	2
Cyanazine (Bladex)	<2	2
Metolachlor (Dual)	<6	6
Alachlor (Lasso)	<6	6
Metribuzin (Sencor)	<4	4
Butylate (Sutan)	<3	3
Trifluralin (Treflan)	<5	5
Acetochlor	<7	7
Desethyl Atrazine	<2	2
Desisopropyl Atrazine	<3	3

Date Analyzed: 06-05-1996
Method: EPA 507/8141
Date Extracted: 05-31-1996
Extraction Method: EPA 507/3510

Analyst: PJM
Verified: DLZ
Analyst: PM
Verified: MK

Description of units used within this report

ug/L - Micrograms per Liter

Quant Limit - Lowest concentration reliably measured

Coordinator of analytical services - Sherri Marine @ 319/335-4500 Ext 2260



Hygienic Laboratory

The University of Iowa

Date of report: 07-02-1996

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LAVOY HAAGE
DNR SOLID WASTE SECTION
WALLACE STATE OFFICE BLDG
900 EAST GRAND AVENUE
DES MOINES IA 50319

Sample Number	9603841
Date Received	05-30-1996
Project	WMSF
Date Collected	05-28-1996 15:25
Collection Site	aidex mw-3
Collection Town	Council Bluffs(rural
Description	water
Reference	
Collector	DRUSTRUP ROBERT
Phone	(515) 281-8900
PWS Id & Type	
Purchase Order	

Results of Analyses

Nitrogen Containing Herbicides in Water

Analyte	Concentration ug/L	Quantitation Limit
Atrazine	1.6	0.1
Cyanazine (Bladex)	<0.1	0.1
Metolachlor (Dual)	<0.1	0.1
Alachlor (Lasso)	<0.1	0.1
Metribuzin (Sencor)	<0.1	0.1
Butylate (Sutan)	<0.1	0.1
Trifluralin (Treflan)	<0.1	0.1
Acetochlor	<0.1	0.1
Desethyl Atrazine	<0.1	0.1
Desisopropyl Atrazine	<0.1	0.1

Date Analyzed: 06-05-1996
Method: EPA 507/8141
Date Extracted: 05-31-1996
Extraction Method: EPA 507/3510

Analyst: PJM
Verified: DLZ
Analyst: PM
Verified: MK

Description of units used within this report

ug/L - Micrograms per Liter

Quant Limit - Lowest concentration reliably measured

Coordinator of analytical services - Sherri Marine @ 319/335-4500 Ext 2260



Hygienic Laboratory

The University of Iowa

Date of report: 07-02-1996

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LAVOY HAAGE
DNR SOLID WASTE SECTION
WALLACE STATE OFFICE BLDG
900 EAST GRAND AVENUE
DES MOINES IA 50319

Sample Number	9603842
Date Received	05-30-1996
Project	WMSF
Date Collected	05-28-1996 14:15
Collection Site	aidex mw-4
Collection Town	Council Bluffs(rural
Description	water
Reference	
Collector	DRUSTRUP ROBERT
Phone	(515) 281-8900
PWS Id & Type	
Purchase Order	

Results of Analyses

Nitrogen Containing Herbicides in Water

Analyte	Concentration ug/L	Quantitation Limit
Atrazine	<2	2
Cyanazine (Bladex)	<2	2
Metolachlor (Dual)	<6	6
Alachlor (Lasso)	<6	6
Metribuzin (Sencor)	<4	4
Burylate (Sutan)	<3	3
Trifluralin (Treflan)	<5	5
Acetochlor	<7	7
Desethyl Atrazine	<2	2
Desisopropyl Atrazine	<3	3

Date Analyzed: 06-05-1996
Method: EPA 507/8141
Date Extracted: 05-31-1996
Extraction Method: EPA 507/3510

Analyst: PJM
Verified: DLZ
Analyst: PM
Verified: MK

Description of units used within this report

ug/L - Micrograms per Liter

Quant Limit - Lowest concentration reliably measured

Coordinator of analytical services - Sherri Marine @ 319/335-4500 Ext 2260



Hygienic Laboratory

The University of Iowa

Date of report: 07-02-1996

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LAVOY HAAGE

DNR SOLID WASTE SECTION

WALLACE STATE OFFICE BLDG

900 EAST GRAND AVENUE

DES MOINES IA 50319

Sample Number	9603843
Date Received	05-30-1996
Project	WMSF
Date Collected	05-29-1996 09:00
Collection Site	aidex adx-14
Collection Town	Council Bluffs/rural
Description	water
Reference	
Collector	DRUSTRUP ROBERT
Phone	(515) 281-8900
PWS Id & Type	
Purchase Order	

Results of Analyses

Nitrogen Containing Herbicides in Water

Analyte	Concentration ug/L	Quantitation Limit
Atrazine	<0.1	0.1
Cyanazine (Bladex)	<0.1	0.1
Metolachlor (Dual)	<0.1	0.1
Alachlor (Lasso)	<0.1	0.1
Metribuzin (Sencor)	<0.1	0.1
Burylate (Sutan)	<0.1	0.1
Trifluralin (Treflan)	<0.1	0.1
Acetochlor	<0.1	0.1
Desethyl Atrazine	<0.1	0.1
Desisopropyl Atrazine	<0.1	0.1

Date Analyzed: 06-05-1996

Method: EPA 507/8141

Date Extracted: 05-31-1996

Extraction Method: EPA 507/3510

Analyst: PJM

Verified: DLZ

Analyst: PM

Verified: MK

Description of units used within this report

ug/L - Micrograms per Liter

Quant Limit - Lowest concentration reliably measured

Coordinator of analytical services - Sherri Marine @ 319/335-4500 Ext 2260



Hygienic Laboratory

The University of Iowa

Date of report: 07-02-1996

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LAVOY HAAGE
DNR SOLID WASTE SECTION
WALLACE STATE OFFICE BLDG
900 EAST GRAND AVENUE
DES MOINES IA 50319

Sample Number	9603844
Date Received	05-30-1996
Project	WMSF
Date Collected	05-28-1996 16:25
Collection Site	aidex adx-15
Collection Town	Council Bluffs(rural
Description	water
Reference	
Collector	DRUSTRUP ROBERT
Phone	(515) 281-8900
PWS Id & Type	
Purchase Order	

Results of Analyses

Nitrogen Containing Herbicides in Water

Analyte	Concentration ug/L	Quantitation Limit
Atrazine	2.4	0.1
Cyanazine (Bladex)	<0.1	0.1
Metolachlor (Dual)	<0.4	0.4
Alachlor (Lasso)	<0.2	0.2
Metribuzin (Sencor)	<0.2	0.2
Butylate (Sutan)	<0.2	0.2
Trifluralin (Treflan)	<0.3	0.3
Acetochlor	<0.4	0.4
Desethyl Atrazine	<0.1	0.1
Desisopropyl Atrazine	<0.2	0.2

Date Analyzed: 06-05-1996
Method: EPA 507/8141
Date Extracted: 05-31-1996
Extraction Method: EPA 507/3510

Analyst: PJM
Verified: DLZ
Analyst: PM
Verified: MK

Description of units used within this report

ug/L - Micrograms per Liter

Quant Limit - Lowest concentration reliably measured

Coordinator of analytical services - Sherri Marine @ 319/335-4500 Ext 2260



Hygienic Laboratory

The University of Iowa

Date of report: 07-02-1996

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LAVOY HAAGE
DNR SOLID WASTE SECTION
WALLACE STATE OFFICE BLDG
900 EAST GRAND AVENUE
DES MOINES IA 50319

Sample Number	9603845
Date Received	05-30-1996
Project	WMSF
Date Collected	05-28-1996 15:35
Collection Site	aidex adx-151f
Collection Town	Council Bluffs(rural
Description	water
Reference	
Collector	DRUSTRUP ROBERT
Phone	(515) 281-8900
PWS Id & Type	
Purchase Order	

(low-flow
purging)

Results of Analyses

Nitrogen Containing Herbicides in Water

Analyte	Concentration ug/L	Quantitation Limit
Atrazine	<3.1	0.1
Cyanazine (Bladex)	<0.1	0.1
Metolachlor (Dual)	<0.4	0.4
Alachlor (Lasso)	<0.2	0.2
Metribuzin (Sencor)	<0.2	0.2
Butylate (Sutan)	<0.2	0.2
Trifluralin (Treflan)	<0.3	0.3
Acetochlor	<0.4	0.4
Desethyl Atrazine	<0.1	0.1
Desisopropyl Atrazine	<0.2	0.2
Prometon	0.48	0.2

Date Analyzed: 06-05-1996
Method: EPA 507/8141
Date Extracted: 05-31-1996
Extraction Method: EPA 507/3510

Analyst: PJM
Verified: DLZ
Analyst: PM
Verified: MK

Description of units used within this report

ug/L - Micrograms per Liter

Quant Limit - Lowest concentration reliably measured

Coordinator of analytical services - Sherri Marine @ 319/335-4500 Ext 2260



Hygienic Laboratory

The University of Iowa

Date of report: 07-02-1996

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LAVOY HAAGE
DNR SOLID WASTE SECTION
WALLACE STATE OFFICE BLDG
900 EAST GRAND AVENUE
DES MOINES IA 50319

Sample Number	9603846
Date Received	05-30-1996
Project	WMSF
Date Collected	05-29-1996 08:05
Collection Site	aidex adx-20
Collection Town	Council Bluffs/rural
Description	water
Reference	
Collector	DRUSTRUP ROBERT
Phone	(515) 281-8900
PWS Id & Type	
Purchase Order	

Results of Analyses

Nitrogen Containing Herbicides in Water

Analyte	Concentration ug/L	Quantitation Limit
Atrazine	<0.1	0.1
Cyanazine (Bladex)	<0.1	0.1
Metolachlor (Dual)	<0.1	0.1
Alachlor (Lasso)	<0.1	0.1
Metribuzin (Sencor)	<0.1	0.1
Butylate (Sutan)	<0.1	0.1
Trifluralin (Trellan)	<0.1	0.1
Acetochlor	<0.1	0.1
Desethyl Atrazine	<0.1	0.1
Desisopropyl Atrazine	<0.1	0.1

Date Analyzed: 06-05-1996
Method: EPA 507/8141
Date Extracted: 05-31-1996
Extraction Method: EPA 507/3510

Analyst: PJM
Verified: DLZ
Analyst: PM
Verified: MK

Description of units used within this report

ug/L - Micrograms per Liter

Quant Limit - Lowest concentration reliably measured

Coordinator of analytical services - Sherri Marine @ 319/335-4500 Ext 2260



Hygienic Laboratory

The University of Iowa

Date of report: 07-02-1996

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LAVOY HAAGE
DNR SOLID WASTE SECTION
WALLACE STATE OFFICE BLDG
900 EAST GRAND AVENUE
DES MOINES IA 50319

Sample Number	9603847
Date Received	05-30-1996
Project	WMSF
Date Collected	05-29-1996 08:45
Collection Site	aidex adx-21
Collection Town	Council Bluffs(rural
Description	water
Reference	
Collector	DRUSTRUP ROBERT
Phone	(515) 281-8900
PWS Id & Type	
Purchase Order	

Results of Analyses

Nitrogen Containing Herbicides in Water

Analyte	Concentration ug/L	Quantitation Limit
Atrazine	<0.1	0.1
Cyanazine (Bladex)	<0.1	0.1
Metolachlor (Dual)	<0.1	0.1
Alachlor (Lasso)	<0.1	0.1
Metribuzin (Sencor)	<0.1	0.1
Burlyate (Sutan)	<0.1	0.1
Trifluralin (Treflan)	<0.1	0.1
Acetochlor	<0.1	0.1
Desethyl Atrazine	<0.1	0.1
Desisopropyl Atrazine	<0.1	0.1

Date Analyzed: 06-05-1996
Method: EPA 507/8141
Date Extracted: 05-31-1996
Extraction Method: EPA 507/3510

Analyst: PJM
Verified: DLZ
Analyst: PM
Verified: MK

GC/MS Volatiles

Analyte	Concentration ug/L	Quantitation Limit
Tetrachloroethene	<5	5

Date Analyzed: 06-10-1996
Method: UHL 8260

Analyst: LL
Verified: TC

Description of units used within this report

ug/L - Micrograms per Liter

Quant Limit - Lowest concentration reliably measured

Coordinator of analytical services - Sherril Marine @ 319/335-4500 Ext 2260



Hygienic Laboratory

The University of Iowa

Date of report: 07-02-1996

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LAVOY HAAGE
DNR SOLID WASTE SECTION
WALLACE STATE OFFICE BLDG
900 EAST GRAND AVENUE
DES MOINES IA 50319

Sample Number	9603848
Date Received	05-30-1996
Project	WMSF
Date Collected	05-28-1996 13:55
Collection Site	aidex adx-22
Collection Town	Council Bluffs(rural
Description	water
Reference	
Collector	DRUSTRUP ROBERT
Phone	(515) 281-8900
PWS Id & Type	
Purchase Order	

Results of Analyses

Nitrogen Containing Herbicides in Water

Analyte	Concentration ug/L	Quantitation Limit
Atrazine	0.49	0.2
Cyanazine (Bladex)	<0.2	0.2
Metolachlor (Dual)	<0.6	0.6
Alachlor (Lasso)	<0.6	0.6
Metribuzin (Sencor)	<0.3	0.3
Burylate (Sutan)	<0.3	0.3
Trifluralin (Treflan)	<0.5	0.5
Acetochlor	<0.6	0.6
Desethyl Atrazine	<0.2	0.2
Desisopropyl Atrazine	<0.3	0.3

Date Analyzed: 06-05-1996
Method: EPA 507/8141
Date Extracted: 05-31-1996
Extraction Method: EPA 507/3510

Analyst: PJM
Verified: DLZ
Analyst: PM
Verified: MK

Description of units used within this report

ug/L - Micrograms per Liter

Quant Limit - Lowest concentration reliably measured

Coordinator of analytical services - Sherri Marine @ 319/335-4500 Ext 2260



Hygienic Laboratory

The University of Iowa

Date of report: 07-02-1996

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LAVOY HAAGE
DNR SOLID WASTE SECTION
WALLACE STATE OFFICE BLDG
900 EAST GRAND AVENUE
DES MOINES IA 50319

Sample Number	9603849
Date Received	05-30-1996
Project	WMSF
Date Collected	05-28-1996 14:40
Collection Site	aidex adx-23
Collection Town	Council Bluffs(rural
Description	water
Reference	
Collector	DRUSTRUP ROBERT
Phone	(515) 281-8900
PWS Id & Type	
Purchase Order	

Results of Analyses

Nitrogen Containing Herbicides in Water

Analyte	Concentration ug/L	Quantitation Limit
Atrazine	<0.1	0.1
Cyanazine (Bladex)	<0.1	0.1
Metolachlor (Dual)	<0.1	0.1
Alachlor (Lasso)	<0.1	0.1
Metribuzin (Sencor)	<0.1	0.1
Butylate (Sutan)	<0.1	0.1
Trifluralin (Treflan)	<0.1	0.1
Acetochlor	<0.1	0.1
Desethyl Atrazine	<0.1	0.1
Desisopropyl Atrazine	<0.1	0.1

Date Analyzed: 06-05-1996
Method: EPA 507/8141
Date Extracted: 05-31-1996
Extraction Method: EPA 507/3510

Analyst: PJM
Verified: DLZ
Analyst: PM
Verified: MK

Description of units used within this report

ug/L - Micrograms per Liter

Quant Limit - Lowest concentration reliably measured

Coordinator of analytical services - Sherri Marine @ 319/335-4500 Ext 2260



Hygienic Laboratory

The University of Iowa

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DNR SOLID WASTE SECTION
WALLACE STATE OFFICE BLDG
900 EAST GRAND AVENUE
DES MOINES IA 50319

Sample Number	9603850
Date Received	05-30-1996
Project	WMSF
Date Collected	05-28-1996 17:20
Collection Site	aidex adx-26
Collection Town	Council Bluffs(rural
Description	water
Reference	
Collector	DRUSTRUP ROBERT
Phone	(515) 281-8900
PWS Id & Type	
Purchase Order	

Results of Analyses

Nitrogen Containing Herbicides in Water

Analyte	Concentration ug/L	Quantitation Limit
Atrazine	<0.1	0.1
Cyanazine (Bladex)	<0.1	0.1
Metolachlor (Dual)	<0.1	0.1
Alachlor (Lasso)	<0.1	0.1
Metribuzin (Sencor)	<0.1	0.1
Butylate (Sutan)	<0.1	0.1
Trifluralin (Treflan)	<0.1	0.1
Acetochlor	<0.1	0.1
Desethyl Atrazine	<0.1	0.1
Desisopropyl Atrazine	<0.1	0.1

Date Analyzed: 06-05-1996
Method: EPA 507/8141
Date Extracted: 05-31-1996
Extraction Method: EPA 507/3510

Analyst: PJM
Verified: DLZ
Analyst: PM
Verified: MK

Description of units used within this report

ug/L - Micrograms per Liter

Quant Limit - Lowest concentration reliably measured

Coordinator of analytical services - Sherri Marine @ 319/335-4500 Ext 2260



Hygienic Laboratory

The University of Iowa

Date of report: 07-02-1996

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DNR SOLID WASTE SECTION
WALLACE STATE OFFICE BLDG
900 EAST GRAND AVENUE
DES MOINES IA 50319

Sample Number	9603851
Date Received	05-30-1996
Project	WMSF
Date Collected	05-28-1996 17:25
Collection Site	aidex adx-27
Collection Town	Council Bluffs(rural
Description	water
Reference	
Collector	DRUSTRUP ROBERT
Phone	(515) 281-8900
PWS Id & Type	
Purchase Order	

Results of Analyses

Nitrogen Containing Herbicides in Water

Analyte	Concentration ug/L	Quantitation Limit
Atrazine	<0.1	0.1
Cyanazine (Bladex)	<0.1	0.1
Metolachlor (Dual)	<0.1	0.1
Alachlor (Lasso)	<0.1	0.1
Metribuzin (Sencor)	<0.1	0.1
Butylate (Sutan)	<0.1	0.1
Trifluralin (Treflan)	<0.1	0.1
Acetochlor	<0.1	0.1
Desethyl Atrazine	<0.1	0.1
Desisopropyl Atrazine	<0.1	0.1

Date Analyzed: 06-05-1996
Method: EPA 507/8141
Date Extracted: 05-31-1996
Extraction Method: EPA 507/3510

Analyst: PJM
Verified: DLZ
Analyst: PM
Verified: MK

Description of units used within this report

ug/L - Micrograms per Liter

Quant Limit - Lowest concentration reliably measured

Coordinator of analytical services - Sherri Marine @ 319/335-4500 Ext 2260

Hygienic Laboratory

The University of Iowa

Date of report: 07-02-1996

[illegible]

DNR SOLID WASTE SECTION
WALLACE STATE OFFICE BLDG
900 EAST GRAND AVENUE
DES MOINES IA 50319

Sample Number	9603852
Date Received	05-30-1996
Project	WMSF
Date Collected	05-28-1996 16:00
Collection Site	aidex adx-30
Collection Town	Council Bluffs(rural
Description	water
Reference	
Collector	DRUSTRUP ROBERT
Phone	(515) 281-8900
PWS Id & Type	
Purchase Order	

Duplicate
of MW-2

Results of Analyses

Nitrogen Containing Herbicides in Water

Analyte	Concentration ug/L	Quantitation Limit
Atrazine	71	2
Cyanazine (Bladex)	<0.2	0.2
Metolachlor (Dual)	<0.6	0.6
Alachlor (Lasso)	<0.6	0.6
Metribuzin (Sencor)	<0.3	0.3
Butylate (Suran)	<0.3	0.3
Trifluralin (Treflan)	<0.5	0.5
Acetochlor	<0.7	0.7
Desethyl Atrazine	<0.2	0.2
Desisopropyl Atrazine	<0.3	0.3

Date Analyzed: 06-05-1996
Method: EPA 507/8141
Date Extracted: 05-31-1996
Extraction Method: EPA 507/3510

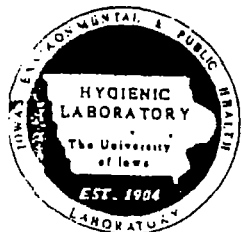
Analyst: PJM
Verified: DLZ
Analyst: PM
Verified: MK

Description of units used within this report

ug/L - Micrograms per Liter

Quant Limit - Lowest concentration reliably measured

Coordinator of analytical services - Sherri Marine @ 319/335-4500 Ext 2260



Hygienic Laboratory

The University of Iowa

Date of report: 07-02-1996

|||||.....|||||.....|||||

DNR SOLID WASTE SECTION
WALLACE STATE OFFICE BLDG
900 EAST GRAND AVENUE
DES MOINES IA 50319

Sample Number	9603853
Date Received	05-30-1996
Project	WMSF
Date Collected	05-28-1996 16:15
Collection Site	aidex adx-31
Collection Town	Council Bluffs(rural
Description	water
Reference	
Collector	DRUSTRUP ROBERT
Phone	(515) 281-8900
PWS Id & Type	
Purchase Order	

Field
Blank

Results of Analyses

Nitrogen Containing Herbicides in Water

Analyte	Concentration ug/L	Quantitation Limit
Atrazine	<0.1	0.1
Cyanazine (Bladex)	<0.1	0.1
Metolachlor (Dual)	<0.1	0.1
Alachlor (Lasso)	<0.1	0.1
Metribuzin (Sencor)	<0.1	0.1
Butylate (Suran)	<0.1	0.1
Trifluralin (Treflan)	<0.1	0.1
Acetochlor	<0.1	0.1
Desethyl Atrazine	<0.1	0.1
Desisopropyl Atrazine	<0.1	0.1

Date Analyzed: 06-05-1996
Method: EPA 507/8141
Date Extracted: 05-31-1996
Extraction Method: EPA 507/3510

Analyst: PJM
Verified: DLZ
Analyst: PM
Verified: MK

Description of units used within this report

ug/L - Micrograms per Liter

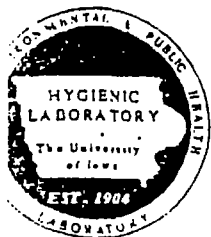
Quant Limit - Lowest concentration reliably measured

Coordinator of analytical services - Sherri Marine @ 319/335-4500 Ext 2260

ACTIVITY LEADER(Print) Robert Drustrun	NAME OF SURVEY OR ACTIVITY Aidex, Co. Bluffs	DATE OF COLLECTION 28-29 05 96 DAY MONTH YEAR	SHEET 1 01 1
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[illegible]

RELINQUISHED BY (SAMPLER) <i>Kobart Directly</i>	DATE <i>5/29/96</i>	TIME <i>2:20 pm</i>	RECEIVED BY <i>R. J. Day</i>	UHL IC <i>6/7/96</i> <i>10:55</i>	REASON FOR CHANGE OF CUSTODY
<input type="checkbox"/> SEALED <input checked="" type="checkbox"/> UNSEALED			<input type="checkbox"/> SEALED <input type="checkbox"/> UNSEALED		
RELINQUISHED BY	DATE	TIME	RECEIVED BY		REASON FOR CHANGE OF CUSTODY
<input type="checkbox"/> SEALED <input type="checkbox"/> UNSEALED			<input type="checkbox"/> SEALED <input type="checkbox"/> UNSEALED		
RELINQUISHED BY	DATE	TIME	RECEIVED BY		REASON FOR CHANGE OF CUSTODY
<input type="checkbox"/> SEALED <input type="checkbox"/> UNSEALED			<input type="checkbox"/> SEALED <input type="checkbox"/> UNSEALED		



Hygienic Laboratory

The University of Iowa

Date of report: 06-22-1995

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LAVOY HAAGE
DNR SOLID WASTE SECTION
WALLACE STATE OFFICE BLDG
900 EAST GRAND AVENUE
DES MOINES IA 50319

Sample Number	9505124
Date Received	06-13-1995
Project	WMSF
Date Collected	06-09-1995 09:50
Collection Site	aidex, mw-2
Collection Town	Council Bluffs
Description	water
Reference	
Collector	DRUSTRUP ROBERT
Phone	(515) 281-8900
PWS Id & Type	
Purchase Order	

Results of Analyses

Nitrogen Containing Herbicides in Water

analyte	Concentration ug/L	Quantitation Limit
trazine	86	0.5
cyanazine (Bladex)	<0.5	0.5
metolachlor (Dual)	<2	2
lachlor (Lasso)	<2	2
terribuzin (Sencor)	<0.5	0.5
urethlate (Sutan)	<1	1
trifluralin (Treflan)	<1	1
metolachlor	<2	2
desethyl Atrazine	0.74	0.5
desisopropyl Atrazine	<0.5	0.5
propazine	4.8	0.5
prometon	1.1	0.5

Date Analyzed: 06-17-1995
Method: EPA 507/8141
Date Extracted: 06-15-1995
Extraction Method: EPA 507/3510

Analyst: PB
Verified: DLZ
Analyst: PM,SH
Verified: MK

Description of units used within this report

ug/L - Micrograms per Liter

Quant Limit - Lowest concentration reliably measured

Coordinator of analytical services - Lynn Hudachek @ 319/335-4500 Ext 2459



Hygienic Laboratory

The University of Iowa

Date of report: 06-22-1995

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LAVOY HAAGE
DNR SOLID WASTE SECTION
WALLACE STATE OFFICE BLDG
900 EAST GRAND AVENUE
DES MOINES IA 50319

Sample Number	9505125
Date Received	06-13-1995
Project	WMSF
Date Collected	06-09-1995 10:30
Collection Site	aidex. mw-3
Collection Town	Council Bluffs
Description	water
Reference	
Collector	DRUSTRUP ROBERT
Phone	(515) 281-8900
PWS Id & Type	
Purchase Order	

Results of Analyses

Nitrogen Containing Herbicides in Water

analyte	Concentration ug/L	Quantitation Limit
atrazine	2.6	0.1
cyanazine (Bladex)	<0.1	0.1
metolachlor (Dual)	<0.2	0.2
alachlor (Lasso)	<0.2	0.2
metribuzin (Sencor)	<0.1	0.1
butylate (Sutan)	<0.1	0.1
trifluralin (Treflan)	<0.1	0.1
acetochlor	<0.2	0.2
desethyl Atrazine	<0.1	0.1
desisopropyl Atrazine	<0.1	0.1
prometon	0.14	0.1

ate Analyzed: 06-18-1995
ethod: EPA 507/8141
ate Extracted: 06-15-1995
xtraction Method: EPA 507/3510

Analyst: PB
Verified: DLZ
Analyst: PM,SH
Verified: MK

Description of units used within this report

ug/L - Micrograms per Liter

Quant Limit - Lowest concentration reliably measured

Coordinator of analytical services - Lynn Hudachek @ 319/335-4500 Ext 2459



Hygienic Laboratory

The University of Iowa

Date of report: 06-22-1995

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LAVOY HAAGE
DNR SOLID WASTE SECTION
WALLACE STATE OFFICE BLDG
900 EAST GRAND AVENUE
DES MOINES IA 50319

Sample Number 9505126
Date Received 06-13-1995
Project WMSF
Date Collected 06-08-1995 11:30
Collection Site aidex, mw-4
Collection Town Council Bluffs
Description water
Reference
Collector DRUSTRUP ROBERT
Phone (515) 281-8900
PWS Id & Type
Purchase Order

Results of Analyses

Nitrogen Containing Herbicides in Water

analyte	Concentration ug/L	Quantitation Limit
atrazine	0.92	0.5
Cyanazine (Bladex)	<0.5	0.5
Ametolachlor (Dual)	<2	2
Alachlor (Lasso)	<2	2
Atribuzin (Sencor)	<0.5	0.5
Burylate (Sutan)	<1	1
Trifluralin (Treflan)	<1	1
Acetochlor	<2	2
Desethyl Atrazine	<0.5	0.5
Desisopropyl Atrazine	<1	1

Date Analyzed: 06-18-1995
Method: EPA 507/8141
Date Extracted: 06-15-1995
Extraction Method: EPA 507/3510

Analyst: PB
Verified: DLZ
Analyst: PM,SH
Verified: MK

Description of units used within this report

ug/L - Micrograms per Liter

Quant Limit - Lowest concentration reliably measured

Coordinator of analytical services - Lynn Hudachek @ 319/335-4500 Ext 2459



Hygienic Laboratory

The University of Iowa

Date of report: 06-22-1995

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LAVOY HAAGE
DNR SOLID WASTE SECTION
WALLACE STATE OFFICE BLDG
900 EAST GRAND AVENUE
DES MOINES IA 50319

Sample Number	9505127
Date Received	06-13-1995
Project	WMSF
Date Collected	06-08-1995 17:10
Collection Site	aidex, igs-la
Collection Town	Council Bluffs
Description	water
Reference	
Collector	DRUSTRUP ROBERT
Phone	(515) 281-8900
PWS Id & Type	
Purchase Order	

Results of Analyses

Nitrogen Containing Herbicides in Water

Herbicide	Concentration ug/L	Quantitation Limit
Alachlor	<0.1	0.1
Atrazine	<0.1	0.1
Alachlor (Dual)	<0.1	0.1
Alachlor (Lasso)	<0.1	0.1
Atrazine (Sencor)	<0.1	0.1
Atrazine (Sutan)	<0.1	0.1
Alachlor (Treflan)	<0.1	0.1
Alachlor	<0.1	0.1
Alachlor Atrazine	<0.1	0.1
Alachlor Atrazine	<0.1	0.1

Date Analyzed: 06-18-1995

Method: EPA 507/8141

Date Extracted: 06-15-1995

Extraction Method: EPA 507/3510

Analyst: PB

Verified: DLZ

Analyst: PM,SH

Verified: MK

Description of units used within this report

ug/L - Micrograms per Liter

Quant Limit - Lowest concentration reliably measured

Coordinator of analytical services - Lynn Hudachek @ 319/335-4500 Ext 2459



Hygienic Laboratory

The University of Iowa

Date of report: 06-22-1995

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LAVOY HAAGE
DNR SOLID WASTE SECTION
WALLACE STATE OFFICE BLDG
900 EAST GRAND AVENUE
DES MOINES IA 50319

Sample Number 9505128
Date Received 06-13-1995
Project WMSF
Date Collected 06-09-1995 08:30
Collection Site adex, adx-14
Collection Town Council Bluffs
Description water
Reference
Collector DRUSTRUP ROBERT
Phone (515) 281-8900
PWS Id & Type
Purchase Order

Results of Analyses

Nitrogen Containing Herbicides in Water

Analyte	Concentration ug/L	Quantitation Limit
Atrazine	<0.1	0.1
Cyanazine (Bladex)	<0.1	0.1
Metolachlor (Dual)	<0.1	0.1
Alachlor (Lasso)	<0.1	0.1
Metribuzin (Sencor)	<0.1	0.1
Burylate (Sutan)	<0.1	0.1
Trifluralin (Treflan)	<0.1	0.1
Acetochlor	<0.1	0.1
Desethyl Atrazine	<0.1	0.1
Desisopropyl Atrazine	<0.1	0.1

Date Analyzed: 06-18-1995
Method: EPA 507/8141
Date Extracted: 06-15-1995
Extraction Method: EPA 507/3510

Analyst: PB
Verified: DLZ
Analyst: PM,SH
Verified: MK

Description of units used within this report
ug/L - Micrograms per Liter Quant Limit - Lowest concentration reliably measured

Coordinator of analytical services - Lynn Hudachek @ 319/335-4500 Ext 2459



Hygienic Laboratory

The University of Iowa

Date of report: 06-22-1995

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LAVOY HAAGE
DNR SOLID WASTE SECTION
WALLACE STATE OFFICE BLDG
900 EAST GRAND AVENUE
DES MOINES IA 50319

Sample Number : 9505129
Date Received : 06-13-1995
Project : WMSF
Date Collected : 06-09-1995 11:15
Collection Site : aidex, adx-15
Collection Town : Council Bluffs
Description : water
Reference :
Collector : DRUSTRUP ROBERT
Phone : (515) 281-8900
PWS Id & Type :
Purchase Order :

Results of Analyses

Nitrogen Containing Herbicides in Water

Analyte	Concentration ug/L	Quantitation Limit
Atrazine	5.1	0.1
Cyanazine (Bladex)	<0.1	0.1
Metolachlor (Dual)	<0.2	0.2
Alachlor (Lasso)	<0.2	0.2
Metribuzin (Sencor)	<0.1	0.1
Butylate (Sutan)	<0.1	0.1
Trifluralin (Treflan)	<0.1	0.1
Acetochlor	<0.2	0.2
Desethyl Atrazine	<0.1	0.1
Desisopropyl Atrazine	<0.1	0.1
Propazine	0.12	0.1
Prometon	0.49	0.1

Date Analyzed: 06-18-1995
Method: EPA 507/8141
Date Extracted: 06-15-1995
Extraction Method: EPA 507/3510

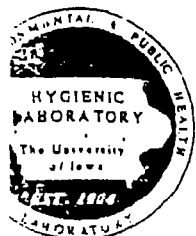
Analyst: PB
Verified: DLZ
Analyst: PM,SH
Verified: MK

Description of units used within this report

ug/L - Micrograms per Liter

Quant Limit - Lowest concentration reliably measured

Coordinator of analytical services - Lynn Hudachek @ 319/335-4500 Ext 2459



Hygienic Laboratory

The University of Iowa

Date of report: 06-22-1995

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LAVOY HAAGE
DNR SOLID WASTE SECTION
WALLACE STATE OFFICE BLDG
900 EAST GRAND AVENUE
DES MOINES IA 50319

Sample Number	9505130
Date Received	06-13-1995
Project	WMSF
Date Collected	06-08-1995 15:25
Collection Site	adex, adx-17
Collection Town	Council Bluffs
Description	water
Reference	
Collector	DRUSTRUP ROBERT
Phone	(515) 281-8900
PWS Id & Type	
Purchase Order	

Results of Analyses

Nitrogen Containing Herbicides in Water

analyte	Concentration ug/L	Quantitation Limit
atrazine	<0.1	0.1
atrazine (Bladex)	<0.1	0.1
atrazinylol (Dual)	<0.1	0.1
atrazinylol (Lasso)	<0.1	0.1
atrazinylol (Sencor)	<0.1	0.1
atrazinylol (Sutan)	<0.1	0.1
atrazinylol (Treflan)	<0.1	0.1
atrazinylol	<0.1	0.1
atrazinylol Atrazine	<0.1	0.1
atrazinylol Atrazine	<0.1	0.1

Sample Analyzed: 06-18-1995
Method: EPA 507/8141
Sample Extracted: 06-15-1995
Reaction Method: EPA 507/3510

Analyst: PB
Verified: DLZ
Analyst: PM,SH
Verified: MK

Description of units used within this report

ug/L - Micrograms per Liter

Quant Limit - Lowest concentration reliably measured

Coordinator of analytical services - Lynn Hudachek @ 319/335-4500 Ext 2459



Hygienic Laboratory

The University of Iowa

Date of report: 06-22-1995

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LAVOY HAAGE
DNR SOLID WASTE SECTION
WALLACE STATE OFFICE BLDG
900 EAST GRAND AVENUE
DES MOINES IA 50319

Sample Number	9505131
Date Received	06-13-1995
Project	WMSF
Date Collected	06-08-1995 15:00
Collection Site	aidex, adx-19
Collection Town	Council Bluffs
Description	water
Reference	
Collector	DRUSTRUP ROBERT
Phone	(515) 281-8900
PWS Id & Type	
Purchase Order	

Results of Analyses

Nitrogen Containing Herbicides in Water

Analyte	Concentration ug/L	Quantitation Limit
Atrazine	<0.1	0.1
Cyanazine (Bladex)	<0.1	0.1
Metolachlor (Dual)	<0.1	0.1
Alachlor (Lasso)	<0.1	0.1
Metribuzin (Sencor)	<0.1	0.1
Burylate (Sutan)	<0.1	0.1
Trifluralin (Treflan)	<0.1	0.1
Acetochlor	<0.1	0.1
Desethyl Atrazine	<0.1	0.1
Desisopropyl Atrazine	<0.1	0.1

Date Analyzed: 06-18-1995
Method: EPA 507/8141
Date Extracted: 06-15-1995
Extraction Method: EPA 507/3510

Analyst: PB
Verified: DLZ
Analyst: PM.SH
Verified: MK

ug/L - Micrograms per Liter
Description of units used within this report
Quant Limit - Lowest concentration reliably measured

Coordinator of analytical services - Lynn Hudachek @ 319/335-4500 Ext 2459



Hygienic Laboratory

The University of Iowa

Date of report: 06-22-1995

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LAVOY HAAGE
DNR SOLID WASTE SECTION
WALLACE STATE OFFICE BLDG
900 EAST GRAND AVENUE
DES MOINES IA 50319

Sample Number	9505132
Date Received	06-13-1995
Project	WMSF
Date Collected	06-08-1995 11:50
Collection Site	aidex, adx-22
Collection Town	Council Bluffs
Description	water
Reference	
Collector	DRUSTRUP ROBERT
Phone	(515) 281-8900
PWS Id & Type	
Purchase Order	

Results of Analyses

Nitrogen Containing Herbicides in Water

Analyte	Concentration ug/L	Quantitation Limit
Atrazine	0.61	0.1
Cyanazine (Bladex)	<0.1	0.1
Metolachlor (Dual)	<0.3	0.3
Alachlor (Lasso)	<0.3	0.3
Metribuzin (Sencor)	<0.3	0.3
Butylate (Sutan)	<0.3	0.3
Trifluralin (Treflan)	<3	3
Acetochlor	<0.3	0.3
Desethyl Atrazine	<3	3
Desisopropyl Atrazine	<3	3

Date Analyzed: 06-18-1995
Method: EPA 507/8141
Date Extracted: 06-15-1995
Extraction Method: EPA 507/3510

Analyst: PB
Verified: DLZ
Analyst: PM,SH
Verified: MK

Description of units used within this report

ug/L - Micrograms per Liter

Quant Limit - Lowest concentration reliably measured

Coordinator of analytical services - Lynn Hudachek @ 319/335-4500 Ext 2459



Hygienic Laboratory

The University of Iowa

Date of report: 06-22-1995

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LAVOY HAAGE
DNR SOLID WASTE SECTION
WALLACE STATE OFFICE BLDG
900 EAST GRAND AVENUE
DES MOINES IA 50319

Sample Number	9505133
Date Received	06-13-1995
Project	WMSF
Date Collected	06-08-1995 11:25
Collection Site	aidex, adx-23
Collection Town	Council Bluffs
Description	water
Reference	
Collector	DRUSTRUP ROBERT
Phone	(515) 281-8900
PWS Id & Type	
Purchase Order	

Results of Analyses

Nitrogen Containing Herbicides in Water

Analyte	Concentration ug/L	Quantitation Limit
Atrazine	<0.1	0.1
Cyanazine (Bladex)	<0.1	0.1
Metolachlor (Dual)	<0.1	0.1
Alachlor (Lasso)	<0.1	0.1
Metribuzin (Sencor)	<0.1	0.1
Burylate (Sutan)	<0.1	0.1
Trifluralin (Treflan)	<0.1	0.1
Acetochlor	<0.1	0.1
Desethyl Atrazine	<0.1	0.1
Desisopropyl Atrazine	<0.1	0.1

Date Analyzed: 06-18-1995
Method: EPA 507/8141
Date Extracted: 06-15-1995
Extraction Method: EPA 507/3510

Analyst: PB
Verified: DLZ
Analyst: PM,SH
Verified: MK

Description of units used within this report

ug/L - Micrograms per Liter

Quant Limit - Lowest concentration reliably measured

Coordinator of analytical services - Lynn Hudachek @ 319/335-4500 Ext 2459



Hygienic Laboratory

The University of Iowa

Date of report: 06-22-1995

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LAVOY HAAGE
DNR SOLID WASTE SECTION
WALLACE STATE OFFICE BLDG
900 EAST GRAND AVENUE
DES MOINES IA 50319

Sample Number	9505134
Date Received	06-13-1995
Project	WMSF
Date Collected	06-08-1995 18:10
Collection Site	aidex, adx-26
Collection Town	Council Bluffs
Description	water
Reference	
Collector	DRUSTRUP ROBERT
Phone	(515) 281-8900
PWS Id & Type	
Purchase Order	

Results of Analyses

Nitrogen Containing Herbicides in Water

Analyte	Concentration ug/L	Quantitation Limit
Atrazine	<0.1	0.1
Cyanazine (Bladex)	<0.1	0.1
Metolachlor (Dual)	<0.1	0.1
Alachlor (Lasso)	<0.1	0.1
Metribuzin (Sencor)	<0.1	0.1
Burylate (Sutan)	<0.1	0.1
Trifluralin (Treflan)	<0.1	0.1
Acetochlor	<0.1	0.1
Desethyl Atrazine	<0.1	0.1
Desisopropyl Atrazine	<0.1	0.1

Date Analyzed: 06-18-1995
Method: EPA 507/8141
Date Extracted: 06-15-1995
Extraction Method: EPA 507/3510

Analyst: PB
Verified: DLZ
Analyst: PM,SH
Verified: MK

Description of units used within this report

ug/L - Micrograms per Liter

Quant Limit - Lowest concentration reliably measured

Coordinator of analytical services - Lynn Hudachek @ 319/335-4500 Ext 2459



Hygienic Laboratory

The University of Iowa

Date of report: 06-22-1995

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LAVOY HAAGE

DNR SOLID WASTE SECTION
WALLACE STATE OFFICE BLDG
900 EAST GRAND AVENUE
DES MOINES IA 50319

Sample Number	9505135
Date Received	06-13-1995
Project	WMSF
Date Collected	06-08-1995 18:00
Collection Site	aidex, adx-27
Collection Town	Council Bluffs
Description	water
Reference	
Collector	DRUSTRUP ROBERT
Phone	(515) 281-8900
PWS Id & Type	
Purchase Order	

Results of Analyses

Nitrogen Containing Herbicides in Water

Analyte	Concentration ug/L	Quantitation Limit..
Atrazine	<0.1	0.1
Cyanazine (Bladex)	<0.1	0.1
Metolachlor (Dual)	<0.1	0.1
Alachlor (Lasso)	<0.1	0.1
Metribuzin (Sencor)	<0.1	0.1
Butylate (Sutan)	<0.1	0.1
Trifluralin (Treflan)	<0.1	0.1
Acetochlor	<0.1	0.1
Desethyl Atrazine	<0.1	0.1
Desisopropyl Atrazine	<0.1	0.1

Date Analyzed: 06-18-1995
Method: EPA 507/8141
Date Extracted: 06-15-1995
Extraction Method: EPA 507/3510

Analyst: PB
Verified: DLZ
Analyst: PM,SH
Verified: MK

ug/L - Micrograms per Liter
Description of units used within this report
Quant Limit - Lowest concentration reliably measured

Coordinator of analytical services - Lynn Hudachek @ 319/335-4500 Ext 2459



Hygienic Laboratory

The University of Iowa

Date of report: 06-07-1993

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DNR SOLID WASTE SECTION
WALLACE STATE OFFICE BLDG
900 EAST GRAND AVENUE
DES MOINES IA 50319

Sample Number	9303843
Date Received	05-19-1993
Project	WMSF
Date Collected	05-18-1993 15:25
Collection Site	mw-7
Collection Town	
Description	water
Reference	AIDEX
Collector	DRUSTRUP ROBERT
Phone	(515) 281-8900
PWS Id & Type	
Purchase Order	

*Duplicate
of mw-2*

Results of Analyses

Nitrogen Containing Herbicides in Water

analyte	Concentration ug/L	Quantitation Limit
razine	76	0.1
adex	<0.1	0.1
ial	<0.2	0.2
ssu	<0.2	0.2
ncor	<0.1	0.1
tan	<0.1	0.1
eflan	<0.1	0.1
opazine	6.6	0.1

te Analyzed: 05-25-1993
ethod: EPA 507/8141
te Extracted: 05-21-1993
raction Method: EPA 507/3510

Analyst: PB
Verified: DLZ
Analyst: MJK CSR
Verified: MK

Description of units used within this report

ug/L - Micrograms per Liter

Quant Limit - Lowest concentration reliably measured

ordinator of analytical services - Lynn Hudachek @ 319/335-4500 Ext 459



Hygienic Laboratory

The University of Iowa

Date of report: 06-07-1993

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DNR SOLID WASTE SECTION
WALLACE STATE OFFICE BLDG
900 EAST GRAND AVENUE
DES MOINES IA 50319

Sample Number	9303844
Date Received	05-19-1993
Project	WMSF
Date Collected	05-18-1993 13:20
Collection Site	adx-14
Collection Town	
Description	water
Reference	AIDEX
Collector	DRUSTRUP ROBERT
Phone	(515) 281-8900
PWS Id & Type	
Purchase Order	

Results of Analyses

Nitrogen Containing Herbicides in Water

analyte	Concentration ug/L	Quantitation Limit
razine	0.11	0.1
adex	<0.1	0.1
al	<0.2	0.2
isso	<0.2	0.2
ncor	<0.1	0.1
tan	<0.1	0.1
eflan	<0.1	0.1
ometon	0.16	0.1

te Analyzed: 05-25-1993
ethod: EPA 507/8141
te Extracted: 05-21-1993
traction Method: EPA 507/3510

Analyst: PB
Verified: DLZ
Analyst: MJK CSR
Verified: MK

Description of units used within this report

ug/L - Micrograms per Liter

Quant Limit - Lowest concentration reliably measured

ordinator of analytical services - Lynn Hudachek @ 319/335-4500 Ext 459



Hygienic Laboratory

The University of Iowa

Date of report: 06-07-1993

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DNR SOLID WASTE SECTION
WALLACE STATE OFFICE BLDG
900 EAST GRAND AVENUE
DES MOINES IA 50319

Sample Number	9303845
Date Received	05-19-1993
Project	WMSF
Date Collected	05-18-1993 14:15
Collection Site	adx-15
Collection Town	
Description	water
Reference	AIDEX
Collector	DRUSTRUP ROBERT
Phone	(515) 281-8900
PWS Id & Type	
Purchase Order	

Results of Analyses

Nitrogen Containing Herbicides in Water

Analyte	Concentration ug/L	Quantitation Limit
Atrazine	3.9	0.1
Aladex	<0.1	0.1
Dual	<0.2	0.2
Alaso	<0.2	0.2
Alencor	<0.1	0.1
Alutan	<0.1	0.1
Alreflan	<0.1	0.1
Alropazine	0.14	0.1
Alrometon	0.56	0.1

Date Analyzed: 05-25-1993
Method: EPA 507/8141
Date Extracted: 05-21-1993
Extraction Method: EPA 507/3510

Analyst: PB
Verified: DLZ
Analyst: MJK CSR
Verified: MK

Description of units used within this report

ug/L - Micrograms per Liter

Quant Limit - Lowest concentration reliably measured

Coordinator of analytical services - Lynn Hudachek @ 319/335-4500 Ext 459



Hygienic Laboratory

The University of Iowa

Date of report: 06-07-1993

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DNR SOLID WASTE SECTION
WALLACE STATE OFFICE BLDG
900 EAST GRAND AVENUE
DES MOINES IA 50319

Sample Number	9303846
Date Received	05-19-1993
Project	WMSF
Date Collected	05-18-1993 09:04
Collection Site	adx-20
Collection Town	
Description	water
Reference	AIDEX
Collector	DRUSTRUP ROBERT
Phone	(515) 281-8900
PWS Id & Type	
Purchase Order	

Results of Analyses

Nitrogen Containing Herbicides in Water

Analyte	Concentration ug/L	Quantitation Limit
atrazine	<0.1	0.1
gladex	<0.1	0.1
Dual	<0.2	0.2
asso	<0.2	0.2
encor	<0.1	0.1
lutan	<0.1	0.1
reflan	<0.1	0.1

Date Analyzed: 05-25-1993
Method: EPA 507/8141
Date Extracted: 05-21-1993
Extraction Method: EPA 507/3510

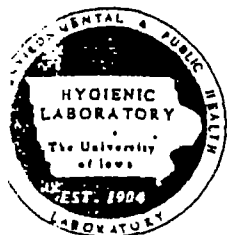
Analyst: PB
Verified: DLZ
Analyst: MJK CSR
Verified: MK

Description of units used within this report

ug/L - Micrograms per Liter

Quant Limit - Lowest concentration reliably measured

Coordinator of analytical services - Lynn Hudachek @ 319/335-4500 Ext 459



Hygienic Laboratory

The University of Iowa

Date of report: 06-07-1993

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DNR SOLID WASTE SECTION
WALLACE STATE OFFICE BLDG
900 EAST GRAND AVENUE
DES MOINES IA 50319

Sample Number	9303847
Date Received	05-19-1993
Project	WMSF
Date Collected	05-18-1993 08:55
Collection Site	adx-21
Collection Town	
Description	water
Reference	AIDEX
Collector	DRUSTRUP ROBERT
Phone	(515) 281-8900
PWS Id & Type	
Purchase Order	

Results of Analyses

GCMS Volatiles

Analyte	Concentration ug/L	Quantitation Limit
Tetrachloroethene	<5	5
Date Analyzed: 05-25-1993		Analyst: FWG
Method: UHL 8260		Verified: TC

Nitrogen Containing Herbicides in Water

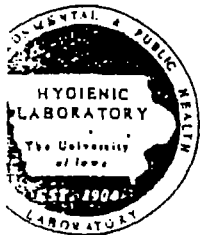
Analyte	Concentration ug/L	Quantitation Limit
Atrazine	<0.1	0.1
Bladex	<0.1	0.1
Dual	<0.2	0.2
Lasso	<0.2	0.2
Sencor	<0.1	0.1
Sutan	<0.1	0.1
Treflan	<0.1	0.1
Date Analyzed: 05-25-1993		Analyst: PB
Method: EPA 507/8141		Verified: DLZ
Date Extracted: 05-21-1993		Analyst: MJK CSR
Extraction Method: EPA 507/3510		Verified: MK

Description of units used within this report

ug/L - Micrograms per Liter

Quant Limit - Lowest concentration reliably measured

Coordinator of analytical services - Lynn Hudachek @ 319/335-4500 Ext 459



Hygienic Laboratory

The University of Iowa

Date of report: 06-07-1993

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DNR SOLID WASTE SECTION
WALLACE STATE OFFICE BLDG
900 EAST GRAND AVENUE
DES MOINES IA 50319

Sample Number	9303848
Date Received	05-19-1993
Project	WMSF
Date Collected	05-18-1993 11:05
Collection Site	adx-22
Collection Town	
Description	water
Reference	AIDEX
Collector	DRUSTRUP ROBERT
Phone	(515) 281-8900
PWS Id & Type	
Purchase Order	

Results of Analyses

Nitrogen Containing Herbicides in Water

analyte	Concentration ug/L	Quantitation Limit
triazine	0.89	0.1
adex	<0.1	0.1
ual	<0.2	0.2
asso	<0.2	0.2
encor	<0.1	0.1
itan	<0.5	0.5
reflan	<5	5

Date Analyzed: 05-25-1993

Method: EPA 507/8141

Date Extracted: 05-21-1993

Extraction Method: EPA 507/3510

Analyst: PB

Verified: DLZ

Analyst: MJK CSR

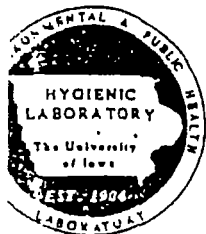
Verified: MK

Description of units used within this report

ug/L - Micrograms per Liter

Quant Limit - Lowest concentration reliably measured

Coordinator of analytical services - Lynn Hudachek @ 319/335-4500 Ext 459



Hygienic Laboratory

The University of Iowa

Date of report: 06-07-1993

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DNR SOLID WASTE SECTION
WALLACE STATE OFFICE BLDG
900 EAST GRAND AVENUE
DES MOINES IA 50319

Sample Number	9303849
Date Received	05-19-1993
Project	WMSF
Date Collected	05-18-1993 10:40
Collection Site	adx-23
Collection Town	
Description	water
Reference	AIDEX
Collector	DRUSTRUP ROBERT
Phone	(515) 281-8900
PWS Id & Type	
Purchase Order	

Results of Analyses

Nitrogen Containing Herbicides in Water

analyte	Concentration ug/L	Quantitation Limit
triazine	<0.1	0.1
ladox	<0.1	0.1
lual	<0.2	0.2
asso	<0.2	0.2
encor	<0.1	0.1
utan	<0.1	0.1
reflan	<0.1	0.1

Date Analyzed: 05-25-1993
Method: EPA 507/8141
Date Extracted: 05-21-1993
Extraction Method: EPA 507/3510

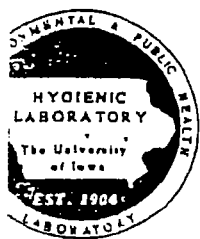
Analyst: PB
Verified: DLZ
Analyst: MJK CSR
Verified: MK

Description of units used within this report

ug/L - Micrograms per Liter

Quant Limit - Lowest concentration reliably measured

Coordinator of analytical services - Lynn Hudachek @ 319/335-4500 Ext 459



Hygienic Laboratory

The University of Iowa

Date of report: 06-07-1993

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DNR SOLID WASTE SECTION
WALLACE STATE OFFICE BLDG
900 EAST GRAND AVENUE
DES MOINES IA 50319

Sample Number	9303850
Date Received	05-19-1993
Project	WMSF
Date Collected	05-17-1993 16:50
Collection Site	adx-26
Collection Town	
Description	water
Reference	AIDEX
Collector	DRUSTRUP ROBERT
Phone	(515) 281-8900
PWS Id & Type	
Purchase Order	

Results of Analyses

Nitrogen Containing Herbicides in Water

analyte	Concentration ug/L	Quantitation Limit
razine	<0.1	0.1
adex	<0.1	0.1
ial	<0.2	0.2
ssu	<0.2	0.2
ncor	<0.1	0.1
tan	<0.1	0.1
eflan	<0.1	0.1

Date Analyzed: 05-25-1993

Method: EPA 507/8141

Date Extracted: 05-21-1993

Extraction Method: EPA 507/3510

Analyst: PB

Verified: DLZ

Analyst: MJK CSR

Verified: MK

Description of units used within this report

ug/L - Micrograms per Liter

Quant Limit - Lowest concentration reliably measured

Coordinator of analytical services - Lynn Hudachek @ 319/335-4500 Ext 459



Hygienic Laboratory

The University of Iowa

Date of report: 06-07-1993

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DNR SOLID WASTE SECTION
WALLACE STATE OFFICE BLDG
900 EAST GRAND AVENUE
DES MOINES IA 50319

Sample Number	9303851
Date Received	05-19-1993
Project	WMSF
Date Collected	05-17-1993 17:00
Collection Site	adx-27
Collection Town	
Description	water
Reference	AIDEX
Collector	DRUSTRUP ROBERT
Phone	(515) 281-8900
PWS Id & Type	
Purchase Order	

Results of Analyses

Nitrogen Containing Herbicides in Water

Analyte	Concentration ug/L	Quantitation Limit
Atrazine	<0.1	0.1
Aladex	<0.1	0.1
Dual	<0.2	0.2
Lasso	<0.2	0.2
Pencor	<0.1	0.1
Putan	<0.1	0.1
Refan	<0.1	0.1

Date Analyzed: 05-25-1993

Method: EPA 507/8141

Date Extracted: 05-21-1993

Extraction Method: EPA 507/3510

Analyst: PB

Verified: DLZ

Analyst: MJK CSR

Verified: MK

Description of units used within this report

ug/L - Micrograms per Liter

Quant Limit - Lowest concentration reliably measured

Coordinator of analytical services - Lynn Hudachek @ 319/335-4500 Ext 459

Chain of Custody Record

Hygienic Laboratory
The University of Iowa

Name of Survey or Activity <u>Aidex</u>	Voucher or Receipt No.
Description of Shipment <u>20</u> Pieces(s) Consisting of <u>1</u> Box(es)	
Contents of Shipment:	

Sample No.	Types of Containers				Sample No.	Types of Containers			
	Cubitainer	8 Jar	40 ml vial/Bottle	ID		Cubitainer	8 Jar	40 ml vial/Bottle	ID
MW-1		1			ADX-21		1	3	
MW-2		1			ADX-22		1		
MW-3		1			ADX-23		1		
MW-4		1			ADX-26		1		
MW-5		1			ADX-27		1		
MW-6			3						
MW-7		1							
ADX-14		1							
ADX-15		1							
ADX-20		1							
Total					Total		14	6	

Personnel Custody Record

Relinquished by <u>Kobal Mustang</u> <input type="checkbox"/> Sealed <input checked="" type="checkbox"/> Unsealed	Received by <input type="checkbox"/> Sealed <input type="checkbox"/> Unsealed	Date	Time	Reason for Change of Custody
Relinquished by <input type="checkbox"/> Sealed <input type="checkbox"/> Unsealed	Received by <input type="checkbox"/> Sealed <input type="checkbox"/> Unsealed	Date 5-19-93	Time 08:55	Reason for Change of Custody SHIP TO I.C.
Relinquished by <input type="checkbox"/> Sealed <input type="checkbox"/> Unsealed	Received by <u>Duke Mustang</u> <input type="checkbox"/> Sealed <input type="checkbox"/> Unsealed	Date 5/19/93	Time 1530H	Reason for Change of Custody ATTN: 14815
Relinquished by <input type="checkbox"/> Sealed <input type="checkbox"/> Unsealed	Received by <input type="checkbox"/> Sealed <input type="checkbox"/> Unsealed	Date	Time	Reason for Change of Custody
Relinquished by <input type="checkbox"/> Sealed <input type="checkbox"/> Unsealed	Received by <input type="checkbox"/> Sealed <input type="checkbox"/> Unsealed	Date	Time	Reason for Change of Custody
Relinquished by <input type="checkbox"/> Sealed <input type="checkbox"/> Unsealed	Received by <input type="checkbox"/> Sealed <input type="checkbox"/> Unsealed	Date	Time	Reason for Change of Custody
Relinquished by <input type="checkbox"/> Sealed <input type="checkbox"/> Unsealed	Received by <input type="checkbox"/> Sealed <input type="checkbox"/> Unsealed	Date	Time	Reason for Change of Custody
Relinquished by <input type="checkbox"/> Sealed <input type="checkbox"/> Unsealed	Received by <input type="checkbox"/> Sealed <input type="checkbox"/> Unsealed	Date	Time	Reason for Change of Custody



Hygienic Laboratory

The University of Iowa

Date of report: 06-22-1995

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LAVOY HAAGE
DNR SOLID WASTE SECTION
WALLACE STATE OFFICE BLDG
900 EAST GRAND AVENUE
DES MOINES IA 50319

Sample Number : 9505136
Date Received : 06-13-1995
Project : WMSF
Date Collected : 06-09-1995 09:00
Collection Site : aidex, adx-29
Collection Town : Council Bluffs
Description : water
Reference :
Collector : DRUSTRUP ROBERT
Phone : (515) 281-8900
PWS Id & Type :
Purchase Order :

Field Blank
RW

Results of Analyses

Nitrogen Containing Herbicides in Water

analyte	Concentration ug/L	Quantitation Limit
atrazine	<0.1	0.1
metolachlor (Bladex)	<0.1	0.1
metolachlor (Dual)	<0.1	0.1
metolachlor (Lasso)	<0.1	0.1
metribuzin (Sencor)	<0.1	0.1
metolachlor (Sutan)	<0.1	0.1
metolachlor (Treflan)	<0.1	0.1
metolachlor	<0.1	0.1
metolachlor Atrazine	<0.1	0.1
metolachlor Atrazine	<0.1	0.1

Date Analyzed: 06-18-1995
Method: EPA 507/8141
Date Extracted: 06-15-1995
Extraction Method: EPA 507/3510

Analyst: PB
Verified: DLZ
Analyst: PM,SH
Verified: MK

Description of units used within this report

ug/L - Micrograms per Liter

Quant Limit - Lowest concentration reliably measured

Coordinator of analytical services - Lynn Hudachek @ 319/335-4500 Ext 2459



Hygienic Laboratory

The University of Iowa

Date of report: 06-22-1995

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LAVOY HAAGE
DNR SOLID WASTE SECTION
WALLACE STATE OFFICE BLDG
900 EAST GRAND AVENUE
DES MOINES IA 50319

Sample Number : 9505137
Date Received : 06-13-1995
Project : WMSF
Date Collected : 06-09-1995 09:45
Collection Site : aidex, adx-30
Collection Town : Council Bluffs
Description : water
Reference :
Collector : DRUSTRUP ROBERT
Phone : (515) 281-8900
PWS Id & Type :
Purchase Order :

*Duplicate of
ADX-15 RD*

Results of Analyses

Nitrogen Containing Herbicides in Water

Analyte	Concentration ug/L	Quantitation Limit
Atrazine	5.1	0.1
Cyanazine (Bladex)	<0.1	0.1
Metolachlor (Dual)	<0.2	0.2
Alachlor (Lasso)	<0.2	0.2
Metribuzin (Sencor)	<0.1	0.1
Burylate (Sutan)	<0.1	0.1
Trifluralin (Treflan)	<0.1	0.1
Acetochlor	<0.2	0.2
Desethyl Atrazine	<0.1	0.1
Desisopropyl Atrazine	<0.1	0.1
Propazine	0.12	0.1
Prometon	0.41	0.1

Date Analyzed: 06-18-1995
Method: EPA 507/8141
Date Extracted: 06-15-1995
Extraction Method: EPA 507/3510

Analyst: PB
Verified: DLZ
Analyst: PM,SH
Verified: MK

Description of units used within this report

ug/L - Micrograms per Liter

Quant Limit - Lowest concentration reliably measured

Coordinator of analytical services - Lynn Hudachek @ 319/335-4500 Ext 2459



Hygienic Laboratory

The University of Iowa

Date of report: 06-22-1995

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LAVOY HAAGE
DNR SOLID WASTE SECTION
WALLACE STATE OFFICE BLDG
900 EAST GRAND AVENUE
DES MOINES IA 50319

Sample Number 9505138
Date Received 06-13-1995
Project WMSF
Date Collected 06-08-1995 16:50
Collection Site adex, adx-21
Collection Town Council Bluffs
Description water
Reference
Collector DRUSTRUP ROBERT
Phone (515) 281-8900
PWS Id & Type
Purchase Order

Results of Analyses

Nitrogen Containing Herbicides in Water

Analyte	Concentration ug/L	Quantitation Limit
Atrazine	<0.1	0.1
Cyanazine (Bladex)	<0.1	0.1
Metolachlor (Dual)	<0.1	0.1
Alachlor (Lasso)	<0.1	0.1
Metribuzin (Sencor)	<0.1	0.1
Butylate (Sutan)	<0.1	0.1
Trifluralin (Trellan)	<0.1	0.1
Acetochlor	<0.1	0.1
Desethyl Atrazine	<0.1	0.1
Desisopropyl Atrazine	<0.1	0.1

Date Analyzed: 06-18-1995
Method: EPA 507/8141
Date Extracted: 06-15-1995
Extraction Method: EPA 507/3510

Analyst: PB
Verified: DLZ
Analyst: PM,SH
Verified: MK

Description of units used within this report

ug/L - Micrograms per Liter

Quant Limit - Lowest concentration reliably measured

Coordinator of analytical services - Lynn Hudachek @ 319/335-4500 Ext 2459



Hygienic Laboratory

The University of Iowa

Date of report: 08-17-1994

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BOB DRUSTRUP
EPD 5
WALLACE BUILDING
EAST 9TH & GRAND
DES MOINES IA 50319

Sample Number 9406817 Revision 1
Date Received 07-15-1994
Project WMSF
Date Collected 07-14-1994 10:20
Collection Site aidex
Collection Town Council Bluffs
Description water
Reference MW-2
Collector DRUSTRUP ROBERT
Phone (515) 281-8900
PWS Id & Type
Purchase Order AC 1324/CC 7335

Results of Analyses

Nitrogen Containing Herbicides in Water

Analyte	Concentration ug/L	Quantitation Limit
Atrazine	290	10
Bladex	< 10	10
Dual	< 40	40
Lasso	< 40	40
Pencor	< 20	20
Sutan	< 20	20
Treflan	< 20	20
Propazine	25	10

Date Analyzed: 07-29-1994

Method: EPA 507/8141

Date Extracted: 07-26-1994

Extraction Method: EPA 507/3510

Analyst: PB

Verified: VR

Analyst: GJ,DR

Verified: MK

Description of units used within this report

ug/L - Micrograms per Liter

Quant Limit - Lowest concentration reliably measured

Coordinator of analytical services - Lynn Hudachek @ 319/335-4500 Ext 2459



Hygienic Laboratory

The University of Iowa

Date of report: 08-17-1994

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BOB DRUSTRUP
EPD 5
WALLACE BUILDING
EAST 9TH & GRAND
DES MOINES IA 50319

Sample Number	9406818 Revision 1
Date Received	07-15-1994
Project	WMSF
Date Collected	07-14-1994 10:30
Collection Site	aidex
Collection Town	Council Bluffs
Description	water
Reference	MW-3
Collector	DRUSTRUP ROBERT
Phone	(515) 281-8900
PWS Id & Type	
Purchase Order	AC 1324/CC 7335

Results of Analyses

Nitrogen Containing Herbicides in Water

analyte	Concentration ug/L	Quantitation Limit
razine	2.1	0.2
adex	<0.2	0.2
ial	<0.4	0.4
ssO	<0.4	0.4
ncor	<0.2	0.2
tan	<0.2	0.2
eflan	<0.2	0.2

te Analyzed: 07-29-1994
ethod: EPA 507/8141
te Extracted: 07-26-1994
traction Method: EPA 507/3510

Analyst: PB
Verified: VR
Analyst: GJ,DR
Verified: MK

Description of units used within this report

ug/L - Micrograms per Liter

Quant Limit - Lowest concentration reliably measured

ordinator of analytical services - Lynn Hudachek @ 319/335-4500 Ext 2459



Hygienic Laboratory

The University of Iowa

Date of report: 08-17-1994

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BOB DRUSTRUP
EPD 5
WALLACE BUILDING
EAST 9TH & GRAND
DES MOINES IA 50319

Sample Number	9406819
Date Received	07-15-1994
Project	WMSF
Date Collected	07-13-1994 16.45
Collection Site	aidex
Collection Town	Council Bluffs
Description	water
Reference	MW-4
Collector	DRUSTRUP ROBERT
Phone	(515) 281-8900
PWS Id & Type	
Purchase Order	AC 1324/CC 7335

Results of Analyses

Nitrogen Containing Herbicides in Water

Analyte	Concentration ug/L	Quantitation Limit
Atrazine	1.4	0.2
Aladex	<0.2	0.2
Dual	<0.4	0.4
Lasso	<0.4	0.4
Pencor	<0.2	0.2
Putan	<0.2	0.2
Preflan	<20	20
Prometon	0.54	0.2

Date Analyzed: 07-29-1994
Method: EPA 507/8141
Date Extracted: 07-26-1994
Extraction Method: EPA 507/3510

Analyst: PB
Verified: VR
Analyst: GJ,DR
Verified: MK

Description of units used within this report

ug/L - Micrograms per Liter

Quant Limit - Lowest concentration reliably measured

Coordinator of analytical services - Lynn Hudachek @ 319/335-4500 Ext 2459



Hygienic Laboratory

The University of Iowa

Date of report: 08-17-1994

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BOB DRUSTRUP
EPD 5
WALLACE BUILDING
EAST 9TH & GRAND
DES MOINES IA 50319

Sample Number	9406820 Revision 1
Date Received	07-15-1994
Project	WMSF
Date Collected	07-14-1994 11:25
Collection Site	aidex
Collection Town	Council Bluffs
Description	water
Reference	MW-5
Collector	DRUSTRUP ROBERT
Phone	(515) 281-8900
PWS Id & Type	
Purchase Order	AC 1324/CC 7335

Results of Analyses

Nitrogen Containing Herbicides in Water

	Concentration ug/L	Quantitation Limit
alvte		
azine	2.9	0.2
dex	<0.2	0.2
al	<0.4	0.4
ssu	<0.4	0.4
icor	<0.2	0.2
an	<0.2	0.2
ilan	<0.2	0.2
meton	0.87	0.2
sethyl Atrazine	1.1	0.2

e Analyzed: 07-29-1994
thod: EPA 507/8141
e Extracted: 07-26-1994
raction Method: EPA 507/3510

Analyst: PB
Verified: VR
Analyst: GJ,DR
Verified: MK

Description of units used within this report

ug/L - Micrograms per Liter

Quant Limit - Lowest concentration reliably measured

ordinator of analytical services - Lynn Hudachek @ 319/335-4500 Ext 2459



Hygienic Laboratory

The University of Iowa

Date of report: 08-17-1994

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BOB DRUSTRUP
EPD 5
WALLACE BUILDING
EAST 9TH & GRAND
DES MOINES IA 50319

Sample Number	9406821 Revision 1
Date Received	07-15-1994
Project	WMSF
Date Collected	07-13-1994 15:00
Collection Site	aidex
Collection Town	Council Bluffs
Description	water
Reference	ADX-14
Collector	DRUSTRUP ROBERT
Phone	(515) 281-8900
PWS Id & Type	
Purchase Order	AC 1324/CC 7335

Results of Analyses

Nitrogen Containing Herbicides in Water

Allyte	Concentration ug/L	Quantitation Limit
Azine	0.11	0.1
dex	<0.1	0.1
il	<0.1	0.1
so	<0.1	0.1
cor	<0.1	0.1
an	<0.1	0.1
flan	<0.1	0.1

Analyzed: 07-29-1994
Method: EPA 507/8141
Extracted: 07-26-1994
Reaction Method: EPA 507/3510

Analyst: PB
Verified: VR
Analyst: GJ,DR
Verified: MK

Description of units used within this report

ug/L - Micrograms per Liter

Quant Limit - Lowest concentration reliably measured

Coordinator of analytical services - Lynn Hudachek @ 319/335-4500 Ext 2459



Hygienic Laboratory

The University of Iowa

Date of report: 08-17-1994

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BOB DRUSTRUP
EPD 5
WALLACE BUILDING
EAST 9TH & GRAND
DES MOINES IA 50319

Sample Number	9406822
Date Received	07-15-1994
Project	WMSF
Date Collected	07-13-1994 16:00
Collection Site	aidex
Collection Town	Council Bluffs
Description	water
Reference	ADX-15
Collector	DRUSTRUP ROBERT
Phone	(515) 281-8900
PWS Id & Type	
Purchase Order	AC 1324/CC 7335

Results of Analyses

Nitrogen Containing Herbicides in Water

lyte	Concentration ug/L	Quantitation Limit
azine	1.3	0.2
lex	<0.2	0.2
l	<0.4	0.4
io	<0.4	0.4
or	<0.2	0.2
n	<0.2	0.2
lan	<0.2	0.2

Analyzed: 07-29-1994
iod: EPA 507/8141
Extracted: 07-26-1994
ction Method: EPA 507/3510

Analyst: PB
Verified: VR
Analyst: GJ,DR
Verified: MK

Description of units used within this report

ug/L - Micrograms per Liter

Quant Limit - Lowest concentration reliably measured

ordinator of analytical services - Lynn Hudachek @ 319/335-4500 Ext 2459



Hygienic Laboratory

The University of Iowa

Date of report: 08-17-1994

|||||
BOB DRUSTRUP
EPD 5
WALLACE BUILDING
EAST 9TH & GRAND
DES MOINES IA 50319

Sample Number	9406823
Date Received	07-15-1994
Project	WMSF
Date Collected	07-14-1994 09:00
Collection Site	adex
Collection Town	Council Bluffs
Description	water
Reference	ADX-20
Collector	DRUSTRUP ROBERT
Phone	(515) 281-8900
PWS Id & Type	
Purchase Order	AC 1324/CC 7335

Results of Analyses

Nitrogen Containing Herbicides in Water

analyte	Concentration ug/L	Quantitation Limit
triazine	<0.1	0.1
adex	<0.1	0.1
dal	<0.1	0.1
aliso	<0.1	0.1
incor	<0.1	0.1
itan	<0.1	0.1
eflan	<0.1	0.1

Date Analyzed: 07-29-1994

Method: EPA 507/8141

Date Extracted: 07-26-1994

Extraction Method: EPA 507/3510

Analyst: PB

Verified: VR

Analyst: GJ,DR

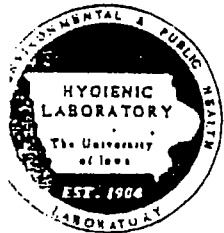
Verified: MK

Description of units used within this report

ug/L - Micrograms per Liter

Quant Limit - Lowest concentration reliably measured

Coordinator of analytical services - Lynn Hudachek @ 319/335-4500 Ext 2459



Hygienic Laboratory

The University of Iowa

Date of report: 08-17-1994

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BOB DRUSTRUP
EPD 5
WALLACE BUILDING
EAST 9TH & GRAND
DES MOINES IA 50319

Sample Number	9406824
Date Received	07-15-1994
Project	WMSF
Date Collected	07-14-1994 08:45
Collection Site	aidex
Collection Town	Council Bluffs
Description	water
Reference	ADX-21
Collector	DRUSTRUP ROBERT
Phone	(515) 281-8900
PWS Id & Type	
Purchase Order	AC 1324/CC 7335

Comments One vial has location marked as "ADX-20 0845Hrs".

Results of Analyses

GC/MS Volatiles

Analyte	Concentration ug/L	Quantitation Limit
Tetrachloroethene	<5	5
Date Analyzed: 07-21-1994		Analyst: LL
Method: UHL 8260		Verified: TC

Nitrogen Containing Herbicides in Water

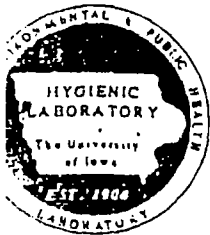
Analyte	Concentration ug/L	Quantitation Limit
Atrazine	<0.1	0.1
Bladex	<0.1	0.1
Dual	<0.1	0.1
Lasso	<0.1	0.1
Sencor	<0.1	0.1
Sutan	<0.1	0.1
Terlan	<0.1	0.1
Date Analyzed: 07-29-1994		Analyst: PB
Method: EPA 507/8141		Verified: VR
Date Extracted: 07-26-1994		Analyst: GJ,DR
Extraction Method: EPA 507/3510		Verified: MK

Description of units used within this report

ug/L - Micrograms per Liter

Quant Limit - Lowest concentration reliably measured

Coordinator of analytical services - Lynn Hudachek @ 319/335-4500 Ext 2459



Hygienic Laboratory

The University of Iowa

Date of report: 08-17-1994

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BOB DRUSTRUP
EPD 5
WALLACE BUILDING
EAST 9TH & GRAND
DES MOINES IA 50319

Sample Number	9406825
Date Received	07-15-1994
Project	WMSF
Date Collected	07-13-1994 17:00
Collection Site	adex
Collection Town	Council Bluffs
Description	water
Reference	ADX-22
Collector	DRUSTRUP ROBERT
Phone	(515) 281-8900
PWS Id & Type	
Purchase Order	AC 1324/CC 7335

Results of Analyses

Nitrogen Containing Herbicides in Water

analyte	Concentration ug/L	Quantitation Limit
triazine	1.3	0.2
adex	<0.2	0.2
ual	<0.4	0.4
asso	<0.4	0.4
ncor	<0.2	0.2
stan	<0.2	0.2
eflan	<20	20

Date Analyzed: 07-29-1994
Method: EPA 507/8141
Date Extracted: 07-26-1994
Extraction Method: EPA 507/3510

Analyst: PB
Verified: VR
Analyst: GJ,DR
Verified: MK

Description of units used within this report

ug/L - Micrograms per Liter

Quant Limit - Lowest concentration reliably measured

ordinator of analytical services - Lynn Hudachek @ 319/335-4500 Ext 2459



Hygienic Laboratory

The University of Iowa

Date of report: 08-17-1994

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BOB DRUSTRUP
EPD 5
WALLACE BUILDING
EAST 9TH & GRAND
DES MOINES IA 50319

Sample Number	9406826
Date Received	07-15-1994
Project	WMSF
Date Collected	07-14-1994 11:15
Collection Site	aidex
Collection Town	Council Bluffs
Description	water
Reference	ADX-23
Collector	DRUSTRUP ROBERT
Phone	(515) 281-8900
PWS Id & Type	
Purchase Order	AC 1324/CC 7335

Results of Analyses

Nitrogen Containing Herbicides in Water

analyte	Concentration ug/L	Quantitation Limit
razine	<0.1	0.1
idex	<0.1	0.1
ial	<0.1	0.1
sso	<0.1	0.1
ncor	<0.1	0.1
tan	<0.1	0.1
eflan	<0.1	0.1

te Analyzed: 07-30-1994

thod: EPA 507/8141

te Extracted: 07-26-1994

traction Method: EPA 507/3510

Analyst: PB

Verified: VR

Analyst: GJ,DR

Verified: MK

Description of units used within this report

ug/L - Micrograms per Liter

Quant Limit - Lowest concentration reliably measured

ordinator of analytical services - Lynn Hudachek @ 319/335-4500 Ext 2459



Hygienic Laboratory

The University of Iowa

Date of report: 08-17-1994

|||||.....
BOB DRUSTRUP
EPD 5
WALLACE BUILDING
EAST 9TH & GRAND
DES MOINES IA 50319

Sample Number	9406827
Date Received	07-15-1994
Project	WMSF
Date Collected	07-14-1994 09:40
Collection Site	aidex
Collection Town	Council Bluffs
Description	water
Reference	ADX-26
Collector	DRUSTRUP ROBERT
Phone	(515) 281-8900
PWS Id & Type	
Purchase Order	AC 1324/CC 7335

Results of Analyses

Nitrogen Containing Herbicides in Water

analyte	Concentration ug/L	Quantitation Limit
atrazine	<0.1	0.1
Aladex	<0.1	0.1
Dual	<0.1	0.1
lasso	<0.1	0.1
encor	<0.1	0.1
utan	<0.1	0.1
reflan	<0.1	0.1

Date Analyzed: 07-30-1994
Method: EPA 507/8141
Date Extracted: 07-26-1994
Extraction Method: EPA 507/3510

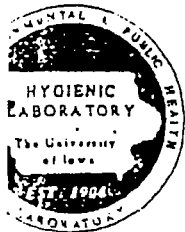
Analyst: PB
Verified: VR
Analyst: GJ,DR
Verified: MK

Description of units used within this report

ug/L - Micrograms per Liter

Quant Limit - Lowest concentration reliably measured

Coordinator of analytical services - Lynn Hudachek @ 319/335-4500 Ext 2459



Hygienic Laboratory

The University of Iowa

Date of report: 08-17-1994

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BOB DRUSTRUP
EPD 5
WALLACE BUILDING
EAST 9TH & GRAND
DES MOINES IA 50319

Sample Number	9406828
Date Received	07-15-1994
Project	WMSF
Date Collected	07-14-1994 09:45
Collection Site	aidex
Collection Town	Council Bluffs
Description	water
Reference	ADX-27
Collector	DRUSTRUP ROBERT
Phone	(515) 281-8900
PWS Id & Type	
Purchase Order	AC 1324/CC 7335

Results of Analyses

Nitrogen Containing Herbicides in Water

analyte	Concentration ug/L	Quantitation Limit
azine	<0.1	0.1
dex	<0.1	0.1
al	<0.1	0.1
iso	<0.1	0.1
icor	<0.1	0.1
an	<0.1	0.1
ellan	<0.1	0.1

Sample Analyzed: 07-30-1994
Method: EPA 507/8141
Sample Extracted: 07-26-1994
Extraction Method: EPA 507/3510

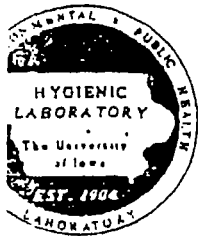
Analyst: PB
Verified: VR
Analyst: GJ,DR
Verified: MK

Description of units used within this report

ug/L - Micrograms per Liter

Quant Limit - Lowest concentration reliably measured

Coordinator of analytical services - Lynn Hudachek @ 319/335-4500 Ext 2459



Hygienic Laboratory

The University of Iowa

Date of report: 08-17-1994

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BOB DRUSTRUP
EPD 5
WALLACE BUILDING
EAST 9TH & GRAND
DES MOINES IA 50319

Sample Number 9406829
Date Received 07-15-1994
Project WMSF
Date Collected 07-14-1994 08:45
Collection Site aidex
Collection Town Council Bluffs
Description water
Reference ADX-29
Collector DRUSTRUP ROBERT
Phone (515) 281-8900
PWS Id & Type
Purchase Order AC 1324/CC 7335

*Duplicate
of MW-2*

Comments Vial times are 0845Hrs, Liter time is 0825Hrs.

Results of Analyses

GC/MS Volatiles

analyte	Concentration ug/L	Quantitation Limit
trichloroethene	< 5	5
Date Analyzed: 07-21-1994		Analyst: LL
Method: UHL 8260		Verified: TC

Nitrogen Containing Herbicides in Water

analyte	Concentration ug/L	Quantitation Limit
triazine	260	10
adex	< 10	10
ual	< 40	40
isso	< 40	40
ncor	< 20	20
itan	< 20	20
retlan	< 20	20
opazine	23	10
Date Analyzed: 07-30-1994		Analyst: PB
Method: EPA 507/8141		Verified: VR
Date Extracted: 07-26-1994		Analyst: GJ,DR
Extraction Method: EPA 507/3510		Verified: MK

Description of units used within this report

ug/L - Micrograms per Liter

Quant Limit - Lowest concentration reliably measured

Coordinator of analytical services - Lynn Hudachek @ 319/335-4500 Ext 2459



Hygienic Laboratory

The University of Iowa

Date of report: 08-17-1994

|||||.....|||||
KATE BASIN
EPD 5
WALLACE BUILDING
EAST 9TH & GRAND
DES MOINES IA 50319

Sample Number	9406830
Date Received	07-15-1994
Project	WMSF
Date Collected	03-04-1994
Collection Site	trip blank
Collection Town	Council Bluffs
Description	trip blank
Reference	
Collector	
Phone	(515) 281-8900
PWS Id & Type	
Purchase Order	AC 1324/CC 7335

Results of Analyses

GC/MS Volatiles

analyte	Concentration ug/L	Quantitation Limit
trichloroethene	< 5	5

Date Analyzed: 07-21-1994

Analyst: LL

Method: UHL 8260

Verified: TC

Description of units used within this report

ug/L - Micrograms per Liter

Quant Limit - Lowest concentration reliably measured

Coordinator of analytical services - Lynn Hudachek @ 319/335-4500 Ext 2459

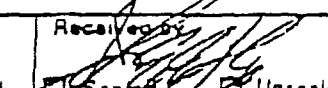
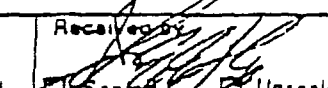
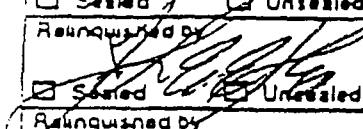
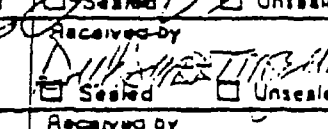
Chain of Custody Record

Hygienic Laboratory
The University of Iowa

Name of Survey or Activity <u>Aidex</u>					Voucher or Receipt No.				
Description of Shipment <u>19</u> Pieces(s) Consisting of <u>1</u> Box(es)									
Contents of Shipment:									

Sample No.	Types of Containers				Sample No.	Types of Containers			
	Cubittainer	1/2 Jar	40 ml Vial	ID		Cubittainer	1/2 Jar	40 ml Vial	ID
MW-2		1			ADX-26		1		
MW-3		1			ADX-27		1		
MW-4		1			ADX-29		1	Z	
MW-5		1			trip blank			1	
ADX-14		1							
ADX-15		1							
ADX-20		1							
ADX-21		1	3 (ONE VIAL MARKED ADX-20)						
ADX-22		1		UHL AS					
ADX-23		1							
Total					Total		13	6	

Personnel Custody Record

Relinquished by (Sampler) 	Received by 	Date <u>7/15/94</u>	Time <u>06:00</u> <u>1421</u>	Reason for Change of Custody <u>Rec. From Picked Bldg</u>
<input type="checkbox"/> Sealed <input type="checkbox"/> Unsealed	<input type="checkbox"/> Sealed <input type="checkbox"/> Unsealed			
Relinquished by 	Received by 	Date <u>7/17/94</u>	Time <u>0900</u>	Reason for Change of Custody <u>I.C. For Analysis</u>
<input type="checkbox"/> Sealed <input type="checkbox"/> Unsealed	<input type="checkbox"/> Sealed <input type="checkbox"/> Unsealed			
Relinquished by	Received by	Date	Time	Reason for Change of Custody
<input type="checkbox"/> Sealed <input type="checkbox"/> Unsealed	<input type="checkbox"/> Sealed <input type="checkbox"/> Unsealed			
Relinquished by	Received by	Date	Time	Reason for Change of Custody
<input type="checkbox"/> Sealed <input type="checkbox"/> Unsealed	<input type="checkbox"/> Sealed <input type="checkbox"/> Unsealed			
Relinquished by	Received by	Date	Time	Reason for Change of Custody
<input type="checkbox"/> Sealed <input type="checkbox"/> Unsealed	<input type="checkbox"/> Sealed <input type="checkbox"/> Unsealed			
Relinquished by	Received by	Date	Time	Reason for Change of Custody
<input type="checkbox"/> Sealed <input type="checkbox"/> Unsealed	<input type="checkbox"/> Sealed <input type="checkbox"/> Unsealed			
Relinquished by	Received by	Date	Time	Reason for Change of Custody
<input type="checkbox"/> Sealed <input type="checkbox"/> Unsealed	<input type="checkbox"/> Sealed <input type="checkbox"/> Unsealed			
Relinquished by	Received by	Date	Time	Reason for Change of Custody
<input type="checkbox"/> Sealed <input type="checkbox"/> Unsealed	<input type="checkbox"/> Sealed <input type="checkbox"/> Unsealed			



Hygienic Laboratory

The University of Iowa

Date of report: 06-07-1993

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DNR SOLID WASTE SECTION
WALLACE STATE OFFICE BLDG
900 EAST GRAND AVENUE
DES MOINES IA 50319

Sample Number	9303837
Date Received	05-19-1993
Project	WMSF
Date Collected	05-18-1993 16:15
Collection Site	mw-1
Collection Town	
Description	water
Reference	AIDEX
Collector	DRUSTRUP ROBERT
Phone	(515) 281-8900
PWS Id & Type	
Purchase Order	

Results of Analyses

Nitrogen Containing Herbicides in Water

analyte	Concentration ug/L	Quantitation Limit
triazine	<0.1	0.1
ladox	<0.1	0.1
ual	<0.2	0.2
asso	<0.2	0.2
encor	<0.1	0.1
itan	<0.1	0.1
reflan	<0.1	0.1

ite Analyzed: 05-25-1993
ethod: EPA 507/8141
ite Extracted: 05-21-1993
traction Method: EPA 507/3510

Analyst: PB
Verified: DLZ
Analyst: MJK CSR
Verified: MK

Description of units used within this report

ug/L - Micrograms per Liter

Quant Limit - Lowest concentration reliably measured

ordinator of analytical services - Lynn Hudachek @ 319/335-4500 Ext 459



Hygienic Laboratory

The University of Iowa

Date of report: 06-07-1993

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DNR SOLID WASTE SECTION
WALLACE STATE OFFICE BLDG
900 EAST GRAND AVENUE
DES MOINES IA 50319

Sample Number	9303838
Date Received	05-19-1993
Project	WMSF
Date Collected	05-18-1993 15:20
Collection Site	mw-2
Collection Town	
Description	water
Reference	AIDEX
Collector	DRUSTRUP ROBERT
Phone	(515) 281-8900
PWS Id & Type	
Purchase Order	

Results of Analyses

Nitrogen Containing Herbicides in Water

analyte	Concentration ug/L	Quantitation Limit
atrazine	75	0.1
gladex	<0.1	0.1
lual	<0.2	0.2
asso	<0.2	0.2
encor	<0.1	0.1
utan	<0.1	0.1
reflan	<0.1	0.1
ropazine	6.5	0.1

Date Analyzed: 05-25-1993

Method: EPA 507/8141

Date Extracted: 05-21-1993

Extraction Method: EPA 507/3510

Analyst: PB

Verified: DLZ

Analyst: MJK CSR

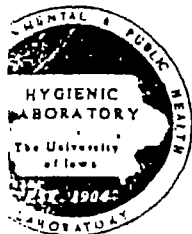
Verified: MK

Description of units used within this report

ug/L - Micrograms per Liter

Quant Limit - Lowest concentration reliably measured

Coordinator of analytical services - Lynn Hudachek @ 319/335-4500 Ext 459



Hygienic Laboratory

The University of Iowa

Date of report: 06-07-1993

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DNR SOLID WASTE SECTION
WALLACE STATE OFFICE BLDG
900 EAST GRAND AVENUE
DES MOINES IA 50319

Sample Number	9303839
Date Received	05-19-1993
Project	WMSF
Date Collected	05-18-1993 15:30
Collection Site	mw-3
Collection Town	
Description	water
Reference	AIDEX
Collector	DRUSTRUP ROBERT
Phone	(515) 281-8900
PWS Id & Type	
Purchase Order	

Results of Analyses

Nitrogen Containing Herbicides in Water

Herbicide	Concentration ug/L	Quantitation Limit
Allyte		
Azine	2.5	0.1
Defx	<0.1	0.1
Di	<0.2	0.2
SO	<0.2	0.2
cor	<0.1	0.1
an	<0.1	0.1
ilan	<0.1	0.1

Analyzed: 05-25-1993
Method: EPA 507/8141
Extracted: 05-21-1993
Action Method: EPA 507/3510

Analyst: PB
Verified: DLZ
Analyst: MJK CSR
Verified: MK

Description of units used within this report

ug/L - Micrograms per Liter

Quant Limit - Lowest concentration reliably measured

Coordinator of analytical services - Lynn Hudachek @ 319/335-4500 Ext 459



Hygienic Laboratory

The University of Iowa

Date of report: 06-07-1993

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DNR SOLID WASTE SECTION
WALLACE STATE OFFICE BLDG
900 EAST GRAND AVENUE
DES MOINES IA 50319

Sample Number	9303840
Date Received	05-19-1993
Project	WMSEF
Date Collected	05-18-1993 10:00
Collection Site	mw-4
Collection Town	
Description	water
Reference	AIDEX
Collector	DRUSTRUP ROBERT
Phone	(515) 281-8900
PWS Id & Type	
Purchase Order	

Results of Analyses

Nitrogen Containing Herbicides in Water

analyte	Concentration ug/L	Quantitation Limit
triazine	1.2	0.1
adex	<0.1	0.1
ual	<0.2	0.2
isso	<0.2	0.2
encor	<0.1	0.1
itan	<1	1
reflan	<20	20

ite Analyzed: 05-25-1993
ethod: EPA 507/8141
ite Extracted: 05-21-1993
traction Method: EPA 507/3510

Analyst: PB
Verified: DLZ
Analyst: MJK CSR
Verified: MK

Description of units used within this report

ug/L - Micrograms per Liter

Quant Limit - Lowest concentration reliably measured

ordinator of analytical services - Lynn Hudachek @ 319/335-4500 Ext 459



Hygienic Laboratory

The University of Iowa

Date of report: 06-07-1993

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DNR SOLID WASTE SECTION
WALLACE STATE OFFICE BLDG
900 EAST GRAND AVENUE
DES MOINES IA 50319

Sample Number	9303841
Date Received	05-19-1993
Project	WMSF
Date Collected	05-18-1993 10:10
Collection Site	mw-5
Collection Town	
Description	water
Reference	AIDEX
Collector	DRUSTRUP ROBERT
Phone	(515) 281-8900
PWS Id & Type	
Purchase Order	

Results of Analyses

Nitrogen Containing Herbicides in Water

Analyte	Concentration ug/L	Quantitation Limit
Atrazine	3.9	0.1
Bladex	<0.1	0.1
Dual	<0.2	0.2
lasso	<0.2	0.2
Sencor	<0.1	0.1
Sutan	<0.1	0.1
reflan	<0.5	0.5
Prometon	0.80	0.1

Date Analyzed: 05-25-1993

Method: EPA 507/8141

Date Extracted: 05-21-1993

Extraction Method: EPA 507/3510

Analyst: PB

Verified: DLZ

Analyst: MJK CSR

Verified: MK

Description of units used within this report

ug/L - Micrograms per Liter

Quant Limit - Lowest concentration reliably measured

Coordinator of analytical services - Lynn Hudachek @ 319/335-4500 Ext 459



Hygienic Laboratory

The University of Iowa

Date of report: 06-07-1993

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DNR SOLID WASTE SECTION
WALLACE STATE OFFICE BLDG
900 EAST GRAND AVENUE
DES MOINES IA 50319

Sample Number	9303842
Date Received	05-19-1993
Project	WMSF
Date Collected	05-18-1993 08:55
Collection Site	mw-6
Collection Town	
Description	water
Reference	AIDEX
Collector	DRUSTRUP ROBERT
Phone	(515) 281-8900
PWS Id & Type	
Purchase Order	

Duplicate
of ADX-21

Results of Analyses

GCMS Volatiles

anlyte	Concentration ug/L	Quantitation Limit
tetrachloroethene	<5	5
ate Analyzed: 05-25-1993		Analyst: FWG
ethod: UHL 8260		Verified: TC

Description of units used within this report

ug/L - Micrograms per Liter

Quant Limit - Lowest concentration reliably measured

ordinator of analytical services - Lynn Hudachek @ 319/335-4500 Ext 459

ATTACHMENT 2

IDNR Annual Report for 1996

ANNUAL REPORT

1996

**REGISTRY OF HAZARDOUS WASTE OR
HAZARDOUS SUBSTANCE DISPOSAL SITES
&
HAZARDOUS WASTE REMEDIAL FUND**

By:

IOWA DEPARTMENT OF NATURAL RESOURCES

January 1, 1997

III. REGISTRY OF HAZARDOUS WASTE OR HAZARDOUS SUBSTANCE DISPOSAL SITES

The Department of Natural Resources is required to develop and maintain a registry of confirmed hazardous waste or hazardous substance disposal sites. The listing of sites on the Registry was begun in 1984. The initial listing included 11 sites, located within 10 counties of the state. As of November 1996, the Registry includes 72 sites, located within 42 counties. Most of the sites were added during 1989, 1990, and 1991. An additional 11 sites have been proposed for inclusion on the Registry. Approximately 800 other sites have been identified that require investigation to determine if they should be placed on the Registry. Because of resource limitations, only one site was proposed for the Registry in 1996.

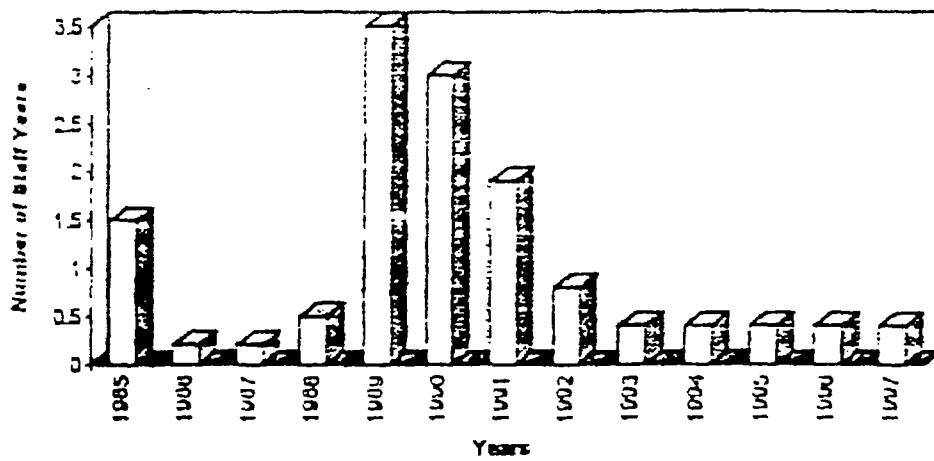
The following table and graphs show the relationship between listing sites on the Registry and the approximate number of technical staff years used for Registry activity. Unlike most of the report, this relationship is evaluated by State Fiscal Year instead of by calendar year. This staff activity does not include the department resources required for legal services or review by the Geological Survey Bureau. It also does not account for the technical review provided by the Department of Health.

Technical Staff Resources and Registry Activity			
State Fiscal Year	Technical Staff Years	Registry Sites Proposed	Registry Sites Added
1985	1.5	15	9
1986	0.2	0	3
1987	0.2	1	3
1988	0.5	1	1
1989	3.5	15	2
1990	3.0	32	24
1991	1.9	16	18
1992	0.8	3	5
1993	0.4	0	1
1994	0.4	0	1
1995	0.4	0	3
1996	0.4	0	1
1997*	0.4	1	1

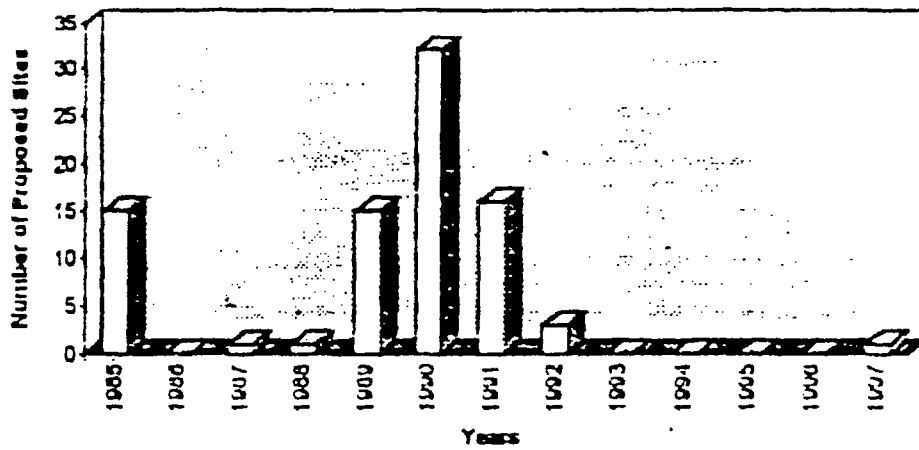
* The estimate for 1997 is for the first half of the Fiscal Year (July 1, 1996 to December 31, 1996). Most of the staff effort is for preparing the annual report.

FY STAFF RESOURCES AND REGISTRY ACTIVITY

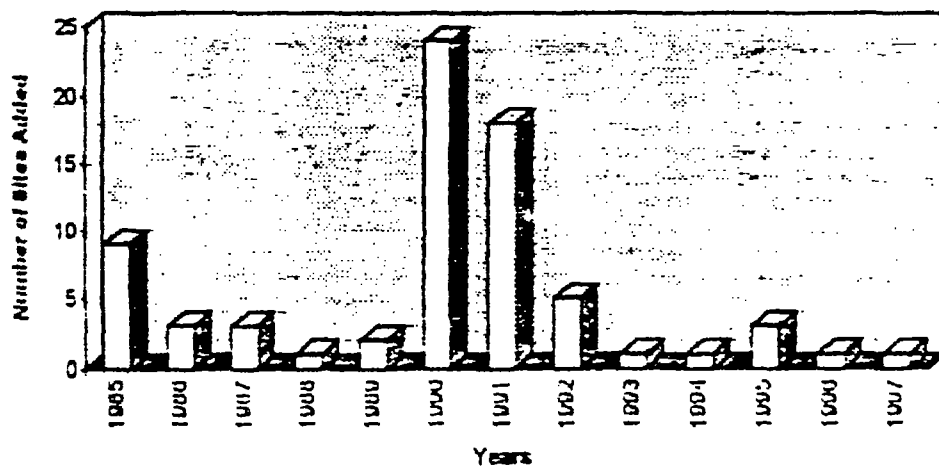
Technical Staff Years



Registry Sites Proposed



Registry Sites Added



The department is required by Iowa Code Section 455B.425 to investigate all known or suspected hazardous waste disposal sites in the state for inclusion on the Registry. A site is eligible for the Registry if it is determined that the disposal of a "hazardous waste" or "hazardous substance" (as defined by Section 455B.411) occurred at the site either illegally or prior to regulation under Chapter 455B. The process for adding new sites to the Registry is in accordance with Chapter 148, "Rules for the Registry of Hazardous Waste or Hazardous Substance Disposal Site." These rules were developed and adopted in 1992.

The listing of a site on the Registry cannot occur without the knowledge of the site owner. The department notifies the site owner by certified mail of the intended listing. Then the owner or operator of the site has thirty days, if they wish, to contest the listing. The owner may petition the department to (1) delete the site, (2) modify the site classification, or (3) modify the information regarding the site. The site cannot be added to the Registry until any such petition is resolved in accordance with Section 455B.429 and Chapter 17A of the Code of Iowa.

All sites listed on the Registry are classified according to the relative priority listing for remedial action at the site. The five classification categories are specified in Section 455B.427.3 of the Code of Iowa. During the initial listing, the site must be placed in one of the first four classifications ("a", "b", "c", or "d"). The action priorities for the five classifications are shown in the following table.

While a site is listed on the Registry, its classification can be changed because of site cleanup activities or because of new information about the site. Then sites have been reclassified from "b" or "c" to "d" because of the proper closure of the sites. These sites are Fort Madison Landfill, LeBoucq Site, McCart Farm Site, North Farm, Northwestern States Portland Cement, Smith Jones, State of Iowa - Dubuque, Toy National Bank (Aidex), White Farm, and Winnebago Drum Site. One site, Jessee Roofing and Painting in Bettendorf, was reclassified to "e" in 1990. This site has been removed from the Registry.

Registry Priority Classifications

Class	Action Requirement	Site Condition
"a"	Immediate Action Required	Causing or presenting an imminent danger of irreversible or irreparable damage to the public health or environment.
"b"	Action Required	Significant threat to the environment.
"c"	Action May Be Deferred	Not a significant threat to the environment.
"d"	Requires Continued Management	Site properly closed.
"e"	No Further Action Required	Site properly closed, no evidence of present or potential adverse impact.

IV. SITE SUMMARIES

This section of the annual report contains summary information on all the sites listed in the Registry. This overview information includes an annual update about any remedial action or other information concerning the site.

The department maintains an assessment file for each site listed in the Registry. These files are located in the central records section of the Des Moines office. For most sites, these files contain the results of comprehensive site investigations. These files all include the "site information packages." The site information package contains a detailed review of the site and is used as the basis for listing and classifying the sites in the Registry.

The following table shows the priority classifications for the 72 sites on the Registry. The sites are presented alphabetically by the name of the county in which they are located and then by site name. In addition to the priority classification, the table shows the year the site was added to the Registry. The map following the table shows the general location of the sites within the state.

Registry of Hazardous Waste or Hazardous Substance Disposal Sites
(72 Sites in 42 Counties)

County Name	Site Name	Priority Class	Year Added
Appanoose	Mc-Graw Edison	B	1990
Benton	Belle Plain Coal Gas	B	1990
Black Hawk	John Deere Waterloo	B	1990
Cass	Atlantic Coal Gas	B	1990
Cerro Gordo	Mason City Coal Gas	B	1990
	Northwestern States Portland Cement	D	1992
Clay	Eaton Corporation - Spencer	B	1991
Clinton	City of Clinton (Chemplex)	C	1985
	Collis Corporation	C	1984
	Tedt's Farm	B	1989
Dallas	Progressive Foundry	B	1991
Des Moines	Burlington Northern/G.L.	C	1990
	United States of America		1986
	(Pink Water Lagoon)	B	
	(RDX Brush Creek)	B	
	(Herbicide/Pesticide Pit)	C	
	(Installation Landfill)	(Unclass)	
Dubuque	John Deere Dubuque	B	1989
	John Deere Dubuque Landfill	C	1991
	Key City Coal Gas	B	1995
	Peoples Natural Gas	B	1989
	State of Iowa - Dubuque	D	1987

Registry of Hazardous Waste or Hazardous Substance Disposal Sites
in Sites in 42 Counties:

County Name	Site Name	Priority Class	Year Added
Floyd	LaBounty Site	D	1984
	Shaw Avenue Dump	E	1990
	White Farm Equipment	D	1989
Franklin	United Hydraulics	E	1989
Guthrie	Mid-Iowa Coop - Bayard	E	1990
Hamilton	Van Diest Supply Company	E	1991
Hardin	Iowa Falls Coal Gas	B	1990
Henry	Winfield Chemical Burial	C	1990
Humboldt	Frit Industries	B	1987
Iowa	Amara Refrigeration, Inc.	D	1993
Jasper	City of Newton	C	1984
	North Farm	D	1989
	Smith Jones	D	1984
Jefferson	Fairfield Coal Gas	E	1989
Jones	Oxford Junction Water Supply	D	1994
Lee	Fort Madison Landfill	D	1989
	Grimes Property	B	1989
	Keokuk Landfill #1	B	1990
	McCarl Farm Site	D	1989
Linn	Novatzke, R. & S. (U.S. Nameplate)	B	1984
	Ralston Site	B	1990
	Square D Company	C	1992
Madison	Mitrisia, Edward	B	1984
Marion	Rolscreen Company	B	1990
Marshall	Reilly Dump Site	C	1989
Mills	Glenwood Dump Site	B	1992
	Toy National Bank (Aidex)	D	1984
Montgomery	Kinnison, L. & B. (Red Oak Landfill)	B	1986
Muscatine	Bret Landfill	B	1990
	Monsanto Company	B	1990
Palo Alto	Ruthven Coop	C	1990
Plymouth	Merrill Public Water Supply	B	1991
Polk	Ankeny Landfill/Lagoon	B	1990
	Aratex Services - D.M.	B	1991
	Dico Company	B	1984
	Land O'Lakes	D	1989
	North High	D	1994
	Williams Pipe Line Company	B	1990

Registry of Hazardous Waste or Hazardous Substance Disposal Sites
72 Sites in 42 Counties.

County Name	Site Name	Priority Class	Year Added
Poweshock	Miracle Recreation Equipment Site	D	1986
Scott	Aluminum Company of America (ALCOA)	E	1990
	Davenport Coal Gas	E	1990
	Hopkins, R.V. Stodgemaster	E	1984
Sioux	Farmers Mutual Cooperative	D	1995
	Inter Chem. Inc.	B	1991
	Vogel Paint & Wax	B	1984
Story	Ames Lab	C	1991
Union	Eggenre Fertilizer	C	1990
	Wellman Dynamics	C	1992
Wapeelo	John Deere Ottumwa	B	1989
Winnebago	Winnebago Drum Site	D	1990
Woodbury	Aratz Services - S.C.	B	1991
	Mid-America Tanning	B	1989
Worth	Helgeson's Sanitary Landfill	D	1990
Wright	Simpson, G	B	1984

TOY NATIONAL BANK AND CITY OF GLENWOOD SITE (AIDEX)

Council Bluffs, Iowa

GENERAL DESCRIPTION

The site includes about 8.2 acres and is located seven miles south of Council Bluffs, Iowa. It is on land generally described as the W 1/2 of the NE 1/4 of Section 8, T74N, R43W, Mills County, Iowa. The site is in a rural area within the floodplain of the Missouri River. It is bounded on the west by St. Mary's drainage ditch and on the east by County Road L-31.

The site is commonly known as the "Aidex" site. Bankruptcy of the Aidex Corporation caused the land title to revert to the city of Glenwood, Iowa, and the Toy National Bank. The site was sold in 1994 to Omaha Equipment Company and is now occupied by that company.

The site was entered on the Registry in 1984.

The site was placed on the National Priorities List (NPL) in September 1985.

SITE HISTORY

In 1975 the Aidex Corporation started operations as a formulator and packager of liquid and dry agricultural pesticides. Building construction and land acquisition were financed by industrial development bonds issued by the city of Glenwood.

In November 1976 the liquid formulation building was destroyed by fire. The contents within the building included:

- 1) 2,500 gallons of 2.5% prometon and 1% pentachlorophenol in xylene solvent
- 2) 1,000 gallons of 0.037% pyrethrin
- 3) 110 gallons of 87% technical grade diazinon
- 4) 300-400 gallons of 20% pyrethrin concentrate
- 5) Unknown quantities of chlordane, heptachlor, petroleum solvents, and oil-based pesticides.

These materials were not totally destroyed in the fire. Spillage of raw material and product during operations and around drum storage areas produced specific contaminated areas. The fire expanded the contaminated area to the general grounds. After the fire, operations continued on a much-reduced level until the company filed for bankruptcy in 1979.

In November 1980 the Mobile Chemical Company removed about 650 drums of formulation residue containing ethoprop and fofox. The EPA installed a perimeter security fence during November 1981. The Helena Chemical Company and the Mid-America Chemical Company removed about 180 tons of off-specification azinphos 20G during April 1983.

Investigation and studies of the site by the EPA led to a three-phase cleanup of the site. The first phase was completed in the summer of 1983. This included: (1) on-site collection, bulking, and temporary storage of contaminated solids, liquids, and sludges; (2) analysis of collected wastes; (3) construction of an interceptor drainage ditch around the south and east portion of the site; and (4) removal of the bulk liquid wastes. The second phase was completed in spring of 1984. This included the removal of all of the repacked drums and a large amount of debris from the site.

Most of the third phase of the cleanup was completed in the fall of 1986. Site soils containing more than 10 ppm total pesticides were excavated and sent to an approved off-site landfill. Interior surfaces of the on-site buildings were washed to remove contaminated dust. Three additional groundwater monitoring wells were installed. The

remaining remedial action was completed in the spring of 1987. This included site grading and seeding. Ten percent of the \$7,238,800 in cleanup costs was originally paid by the state of Iowa.

HEALTH AND ENVIRONMENTAL IMPACTS

Some pesticides and other organic contaminants have been found at low levels in the groundwater near the site. There are 42 wells within a two-mile radius of Audex that serve about 160 people. However, significant off-site migration of contaminants is not anticipated.

Residual levels of pesticides still exist on the interior surfaces of the remaining buildings at the site. However, monitoring of the interior air has revealed no significant risk posed by the buildings.

SITE CLASSIFICATION

The site is classified "d" in accordance with 455B.427.3. Contamination has been removed from the site through a joint state/EPA remedial action. Continued groundwater monitoring is needed.

The site was originally entered on the Registry with a "b" classification. Following its proper closure, the site was reclassified to "d" in 1986.

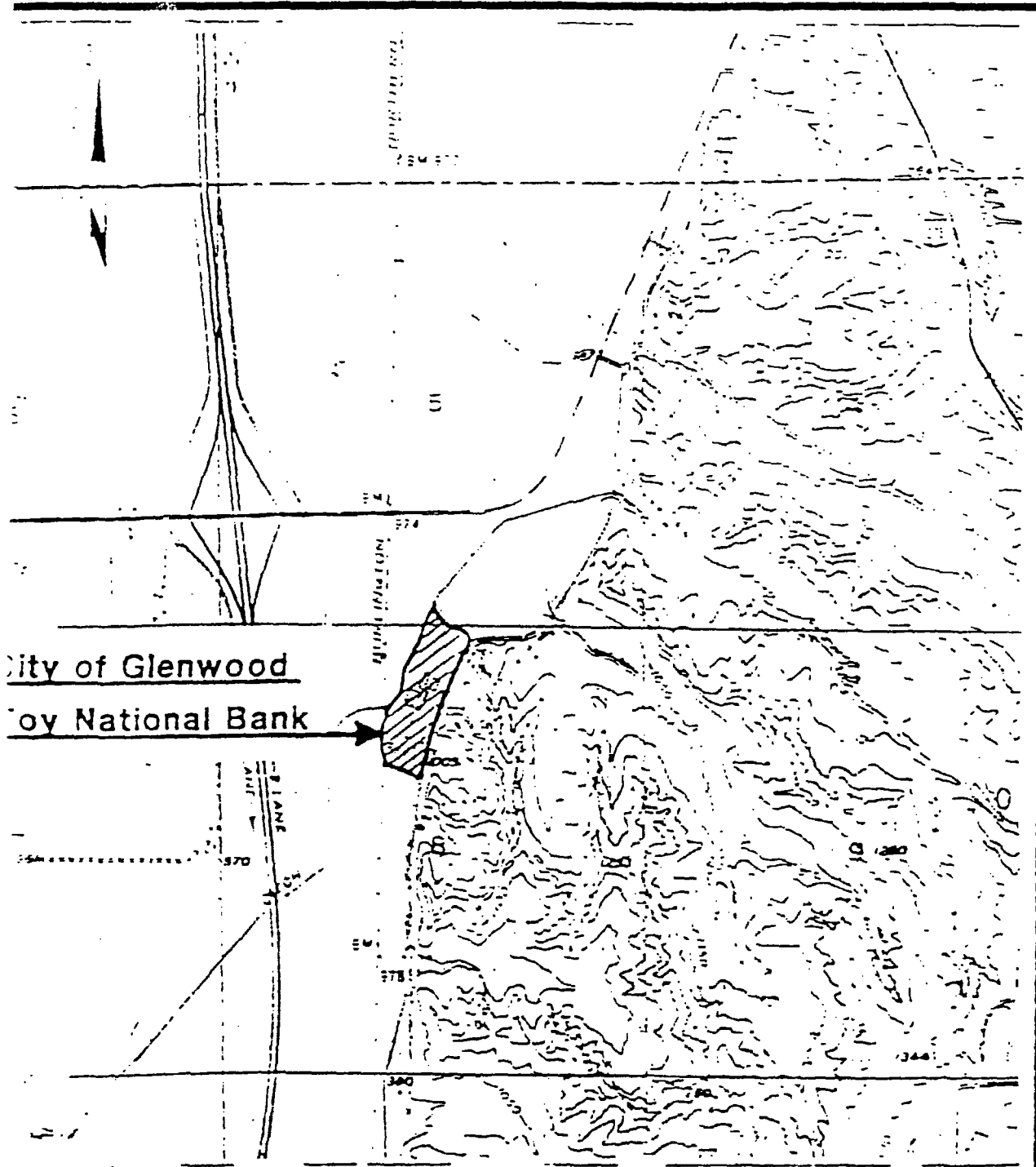
RECOMMENDED REMEDIAL ACTION

The department is continuing to monitor the groundwater at the site on an annual basis. The department conducted a groundwater assessment in May 1990. The assessment concluded the site does not pose a significant threat to off-site groundwater resources.

Sampling of the building interior surfaces was completed in August 1991. The EPA concluded no significant risks are posed by the building and no further action will be taken. A site completion report was finalized in June 1992.

The state received \$886,909 in settlement money from the responsible parties in 1992. This included \$728,880 for the state share of cleanup costs, \$8,029 for interest, and \$150,000 for past and future state monitoring and site maintenance costs.

Toy National Bank & City of Glenwood Site - Water

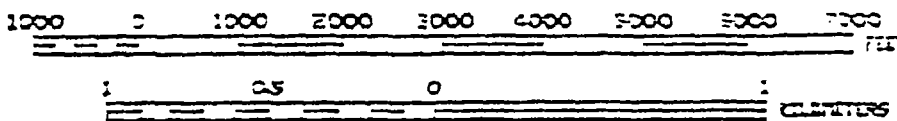


City of Glenwood
Toy National Bank

Map Location



Contour Interval 10 Feet Scale 1 : 24,000



ATTACHMENT 3

**IDNR Correspondence Regarding
Change in Site Ownership**



THE CITY OF GLENWOOD

1115 E. LOCUST ST. GLENWOOD, IOWA 51531-1475
7121 527-1475 • FAX 7121 527-0445

BRAD WRIGHT
City Administrator

DAVIDE WATKINS, JR.
Mayor

MARY PEPPERS
Finance & City Clerk

COUNCIL MEMBERS
Ron Bates
Alan Christensen
Lynne Farris
Suzanne Gaskin
Dore Bangs

November 16, 1995

Mr. Larry Wilson, Director
IOWA DEPARTMENT OF NATURAL RESOURCES
900 East Grand
Des Moines, Iowa 50319

Re: AIDEX Property
Mills County, Iowa

Dear Mr. Wilson:

As per my telephone conversation with Mr. Bob Drustup, please find this letter as our request for your approval of the sale of the above referenced AIDEX property.

We understand that the AIDEX property is listed on the State Registry of Hazardous Substance Disposal Sites. Over the last few weeks we have been in contact with Ms. Barbara Peterson, legal counsel for the Environmental Protection Agency in Kansas City in regard to the sale of the subject property. It is my understanding from those conversations, as well as my conversation with Mr. Drustup, that we need to obtain the approval of the IOWA DEPARTMENT OF NATURAL RESOURCES to sell the property.

Over the last few months, I have been in contact with several prospective purchasers of the property. Unfortunately, most of the prospective purchasers have declined to make an offer. The company that has made an offer is Ozana Processing Equipment Company. This firm primarily deals with the sale of used and refurbished meat processing equipment. They intend to use the property as a warehouse and showcase for their equipment. In three years they plan on employing 40 to 50 people. They have a world wide market and intend to fly their clients into Epley Airport in Ozana to view the equipment. Since the AIDEX site is only 15 minutes south of Epley, they are excited about its location. We are excited about the proposed sale for several reasons. We are primarily concerned about being able to put the property back to use so that it can become a

RECEIVED BY


positive factor in our areas economy. We are also excited about the addition of new jobs in our community.

I have asked our two local banks to research the financial status of Osana Processing Equipment Company. Both banks feel they are financially sound, and suggest that we proceed with the sale.

Mr. David Thiede, President of Osana Processing Equipment Company, is interested in finalizing the sale as soon as possible. I have told Mr. Thiede that there are several hurdles to jump in order for us to provide him with a marketable title to the property. I have also informed him that it may take awhile to clear all these hurdles. Mr. Thiede understands this and would like to lease the property until we get things cleared for the sale. We have recently had the Abstract of Title brought up to date. And we will have our City Attorney, Mr. James Webering, examine the abstract. In order to comply with State law regarding the sale of public owned property, we will be setting a public hearing date at our next City Council Meeting on November 23, 1993. Since our town has never sold a property that has been listed on the State Registry of Hazard Substance Disposal Sites, we would appreciate your guidance as to any special procedures that need to be taken.

We appreciate your attention to this matter, and look forward to hearing from you in the near future.

Sincerely,


C. Lyle Mayberry, Jr.
Mayor, City of Glenwood



JERRY E. BRANSTAD, GOVERNOR

December 3, 1993

DEPARTMENT OF NATURAL RESOURCES
GARY J. WILSON, DIRECTOR

C. Lyle Mayberry Jr., Mayor
City of Glenwood
107 So. Locust St.
Glenwood, Ia. 51534-1705

Dear Mayor:

This letter is in response to yours of November 16, 1993 wherein you request our approval of the sale of the property commonly known as the AIDEX site to Omaha Processing Equipment Company.

You are no doubt aware that this site is on the Registry of Abandoned and Uncontrolled Sites. The site has undergone remediation and is now believed to be an acceptable site for a beneficial use such as you describe in your letter. The State of Iowa has an ongoing oversight responsibility and has an agreement with the U. S. Environmental Protection Agency to conduct periodic sampling of several wells on the site.

Consequently, we are pleased to approve the transfer of the property, as you propose in your letter, provided that the following are made conditions of the sale and future use of the property:

1. The monitoring wells which currently exist on the property are maintained in place until written permission is given for their closure by the state of Iowa and said wells are reasonably protected from damage or interference from the business activities conducted on the site;
2. Authorized personnel from the state must be allowed access to the property for the purpose of collecting samples after providing at least twenty four hours notice to the owner or the current occupant of the site.

We are pleased that the site is to be returned to a use that will benefit the locality and the state. Please feel free to contact us if we can provide further assistance or clarification.

Sincerely,

A handwritten signature in dark ink, appearing to read "G. Wilson".
Gary Wilson, Director



TERRY E. BRAUNSTADT, GOVERNOR

RECORDS COPY

DEPARTMENT OF NATURAL RESOURCES

LARRY L. WILSON, DIRECTOR

October 14, 1994

Mr. Mike Bowden
Mills County Secondary Roads
418 Sharp St.
Glenwood, IA 51534

RE: Aldex (former) Superfund site

Dear Mr. Bowden:

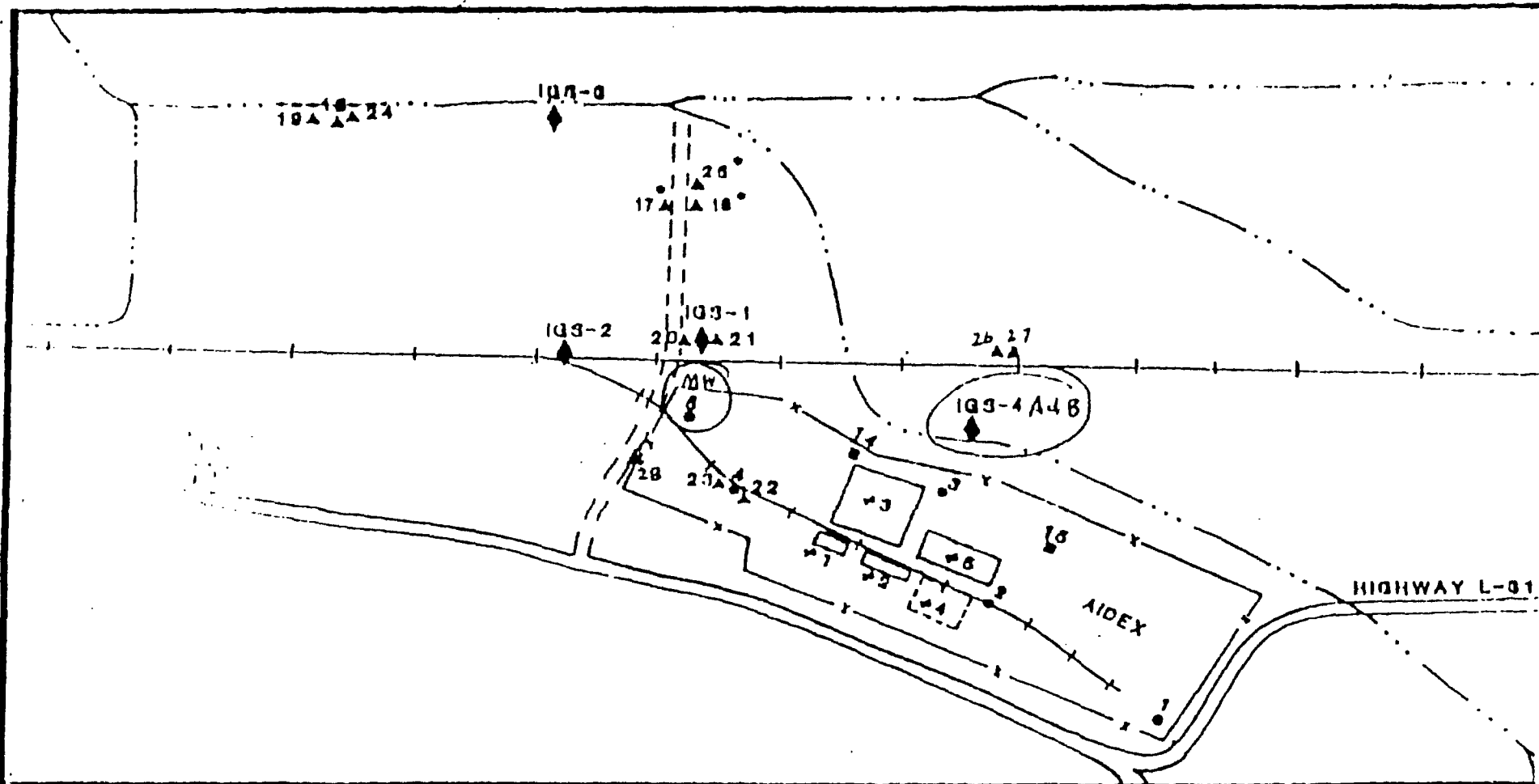
As we discussed on the phone, your request to abandon three monitoring wells at the Aldex site to facilitate relocation of County Road L-31 is approved by this department. As we understand it, these wells are labeled IGS-4A, IGS-4B, and MW-5 (see attached site map). A brass label is on the inside lid of the outside protective casings. The wells are approximately 14, 27, and 31 feet deep, respectively. The two IGS wells are 2 inch I.D. and the MW-5 well is 2.75 inch I.D.

We only ask that these wells be properly abandoned. This can be done by filling the wells with clean material (e.g., sand) to within four feet of the final grade. The top four feet should be sealed with bentonite or neat cement.

If you have any questions regarding this matter, please contact me at (515) 281-8900.

Yours truly,

Robert Drustrop
Solid Waste Section



LEGEND

- AIDEX MONITORING WELL (ADX-1) INSTALLED BY E&H
- ▲ AIDEX MONITORING WELL INSTALLED BY WCO
- ◆ IOWA GEOLOGICAL SURVEY MONITORING WELL (IGS-1)
- EXISTING AIDEX WATER WELL



FIGURE 2
AIDEX SITE
COUNCIL BLUFFS, IOWA
WELL LOCATIONS

200 FEET

• NOTE - THESE ARE CORRECTED WELL LOCATIONS ACCORDING TO ONSITE OBSERVATIONS

F-07-8702-10 / FIA003688

SMITH PETERSON LAW FIRM

100 MAIN PLACE, SUITE 100
DES MOINES, IOWA 50319
PHONE: 281-1111
FAX: 281-222-3333

AROLD T. BECHMAN
ROBERT J. LAUBENTHAL
RICHARD A. HEINTGER
LAWRENCE J. BERGMAN
GREGORY C. BARNETT
STEVEN H. KROHN
TIM CURTIS HEWITT
RANDY R. EATING
JOSEPH D. THORNTON

RAYMOND J. SMITH 1924-1997
JOHN LEROY PETERSON 1924-1997

OMAHA OFFICE
2020 West Dodge Road, Suite 205
Omaha, NE 68104

ASSOCIATES
TIMOTHY J. PATTERMANN
DANIEL L. FRETHEM
PAUL M. SHOTKOSKI

LICENSED IN IOWA AND NEBRASKA
LICENSED IN IOWA, NEBRASKA AND ILLINOIS

May 1, 1997

Mr. Larry J. Wilson
Director
Iowa Department of Natural Resources
Wallace State Office Building
Des Moines, IA 50319

RE: Aidex Superfund Site
Legal Assistant: Stacey Whittington

Please be advised that I represent the interests of Alsama, an Iowa general partnership.

Pursuant to my telephone conversation with Robert Drustup of your office, I am writing to inform you that Alsama intends to lease the above-referenced site from its current owner, O.P.E.C., LLC, beginning May 15, 1997. Alsama intends to conduct a manufacturing operation on the site.

Alsama does not intend to use the site for residential, day care or food-related purposes now or in the future.

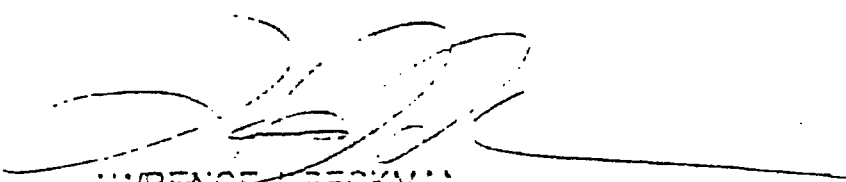
Please take whatever steps are necessary to issue any required approval for the change of the occupant and the change of the use of the site.

Page 2

May 1, 1997

Please also be informed that Aisama has an option to purchase the site during the three-year period commencing May 15, 1997. If any approval for the granting of said option or the exercise of same is required by your department, please so inform me.

Thank you for your cooperation in this matter.



LAWRENCE J. BECKMAN

Lawrence J. Beckman

cc: Mr. Robert Drustup
Iowa Department of Natural Resources
Wallace State Office Building
Des Moines, IA 50319

June 5, 1997

Mr. Lawrence J. Beckman
Smith Peterson Law Firm
35 Main Place, Suite 300
P.O. Box 249
Council Bluffs, IA 51502

RE: Aidex Site, Council Bluffs
State Registry of Hazardous Waste or Hazardous Substance Disposal Sites
Request for Approval of Sale from O.P.E.C., L.L.C. to Aisama

Dear Mr. Beckman:

We received your request dated May 1, 1997, for approval of change in use of the Aidex Superfund Site in rural Mills County, Iowa. The Aidex site is listed on the State Registry of Hazardous Waste or Hazardous Substance Disposal Sites (the "Registry") pursuant to Iowa Code 455B.426. In accordance with Iowa Code 455B.430, approval of change in use as described in your letter of May 1, 1997, is hereby given.

This department conducts an annual monitoring of the groundwater at the site which will continue indefinitely. The monitoring wells on the site should not be disturbed. The department will need access to the site once a year, usually in the spring, to sample the monitoring wells. A notice will be given to the owner in advance of the sampling activity.

Some groundwater contamination persists at the site, particularly the shallow groundwater. Common herbicides, especially atrazine, are the contaminants of concern. Use of shallow (i.e., less than 60 feet deep) wells for water supply is not recommended. Two deeper wells (referred to as ADX-14 and ADX-15) have been used for water supply at the site. Only minor amounts of contaminants have been found in these two wells. The ADX-14 well has been used by O.P.E.C. for water supply. The sample we collected from that well on May 29, 1997, revealed no evidence of contamination.

Page 2 of 2

June 6, 1997

Mr. Lawrence J. Beckman

Attached for your information is a copy of the 1996 ANNUAL REPORT, REGISTRY OF HAZARDOUS WASTE OR HAZARDOUS SUBSTANCE DISPOSAL SITES & HAZARDOUS WASTE REMEDIAL FUND. A description of the Aidx Site a.k.a Toy National Bank and City of Glenwood Site) begins on page 203 of this report. A description of the Registry is provided beginning on page 3 of the report. Also attached for your information is a copy of the 1990 GROUNDWATER ASSESSMENT OF THE AIDEX CORPORATION SITE. This report provides a more detailed assessment of the groundwater contamination at the site.

Please be advised that any subsequent sale or substantial change in use of the property must receive the written approval of the Director of the Department of Natural Resources in accordance with Iowa Code 455B.430. We consider a substantial change in use of the property to include activities such as major new construction and excavation, as well as changes in activities at the site.

If you have any questions regarding the site, please contact Bob Drustup of my staff at (515)281-8900.

Yours truly,



Larry J. Wilson
Director

cc: Dave Thede. O.P.E.C.

ATTACHMENT 4

Trip Report

TRIP REPORT
AIDEX SITE, COUNCIL BLUFFS, IOWA
OCTOBER 2, 1997

Attendees:

Debi Morey	USEPA Regional Project Manager
Bob Drustrup	Iowa Department of Natural Resources
Jackie Mosher	CDM Federal Programs Corporation

The purpose of the site visit was to review the site conditions at the Aidex Site and determine whether site conditions had changed since the last Five Year Review was completed.

Ms. Morey and Ms. Mosher met with Mr. Drustrup 9:45 a.m. on October 2, 1997. A summary of the discussion points is outlined below:

- Mr. Drustrup provided the following documents related to activities at the Aidex Site:
 - A letter from the Mayor of Glenwood, IA requesting approval of the sale of the Aidex property to the Omaha Processing Equipment Company. (November 16, 1997)
 - A letter from IDNR to the Mayor of Glenwood approving the sale of the property to the Omaha Processing Equipment Company. (December 3, 1993)
 - A letter from IDNR to the Mills County Secondary Roads approving well abandonment for three monitoring wells. (October 14, 1994)
 - 1996 Annual Report of the Registry of Hazardous Waste or Hazardous Substance Disposal Sites & Hazardous Waste Remedial Fund. (January 1, 1997)
 - A letter from Smith Peterson Law Firm to IDNR requesting approval of the change in ownership of the Aidex property. (May 1, 1997)
 - A letter from IDNR to Smith Peterson Law Firm regarding approval of the change in use of the property. (June 6, 1997)
- Well ADX-14 is used to provide the facility process and drinking water.
- Monitoring well MW-17 was not locked, was missing the PVC cap, and had damaged casing. All other wells were locked. The well keys were not available. Therefore, the casings could not be inspected.
- Monitoring wells MW-5, IGS 4a, and IGS 4b were abandoned to install a new road along the west side of the facility.

- Omana Processing Equipment Company (OPEC) purchased the property in 1994. OPEC sold refurbished used meat processing equipment. The site was used as a warehouse and showcase for the equipment.
- OPEC sold the property to the SMV Corporation this year. SMV Corporation is a metal fabricator company. As of the site visit, SMV had not occupied the facility.
- The fence around the facility was in good condition and both gates to the site were locked.
- Vegetation is well-established north and south of the facility. A new parking lot was constructed on the south side of the main building since the sampling completed by IDNR this summer. In addition, since the last five-year review, a new warehouse was constructed southeast of the main building.
- All buildings on the site appear to be in good condition. There was no visible evidence of vandalism. According to Mr. Drusrup, the site conditions have improved dramatically since the property was transferred to OPEC and then to SMV.
- Remodeling was evident inside the building.
- Pictures were taken around the site. The photo documentation is attached to this document.

Photographic Record

CDM Federal Programs Corporation
A Division of CDM Group & Services, Inc.

Site Name: Alder Site
Site Location: Council Bluffs, Iowa
Project Ref. No.: WA 020-FB9-0706

No. 1

Description:

Main entrance
to site.

Photographer:
Jackie Mosher

Date: 10/2/97

Direction:
Looking North



No. 2

Description:

Warehouse
addition on
the south
side of the
property.

Photographer:
Jackie Mosher

Date: 10/2/97

Direction:
Looking East



Photographic Record

CDM Federal Programs Corporation
a subsidiary of CDM Group & Services, Inc.

Site Name: Essex Site
Site Location: Summit, Bluffton, Iowa
Project Ref. No.: WA-100-FR9-0716

No. 3

Description:

South edge of
property.

Photographer:
Jackie Mosher

Date: 10/2/97

Direction:
Looking East



No. 4

Description:

North
perimeter of
property.
Suspected
remediation
area.

Photographer:
Jackie Mosher

Date: 10/2/97

Direction:
Looking
Northwest



Photographic Record

CDM Federal Programs Corporation
A Division of CDM Group, Inc.

Site Name: Lick Site
Site Location: French Bluffs, Iowa
Project Ref. No.: NA 000-773-0776

No. 5

Description:

Area north of
buildings.

Photographer:
Jackie Mosher

Date: 10/2/97

Direction:
Looking West



No. 6

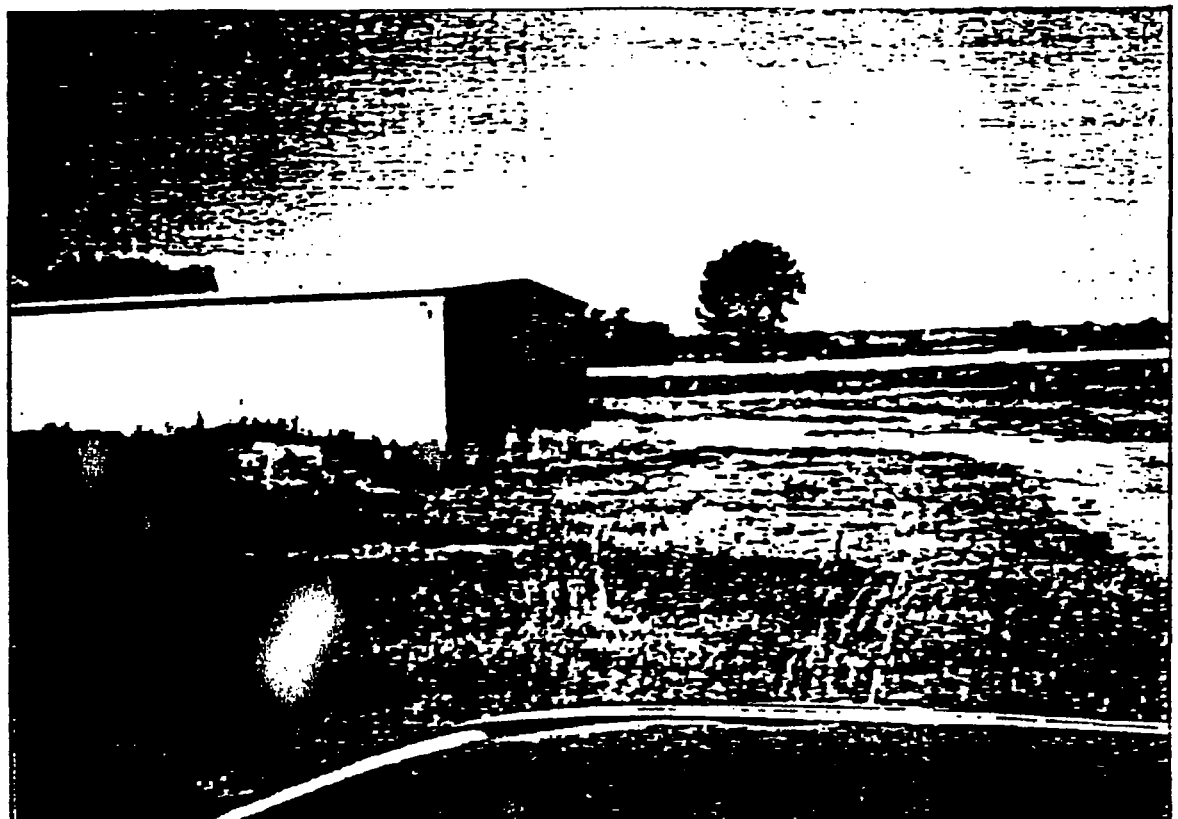
Description:

Area
Immediately
north of
buildings.

Photographer:
Jackie Mosher

Date: 10/2/97

Direction:
Looking
Southwest



Photographic Record

CDM Federal Programs Corporation
A subsidiary of CDM Greiner & Moore Inc.

Site Name:
Site Location:
Project Ref. No.:

Alder Site
Council Bluffs, Iowa
WA 600-729-0705

No. 7

Description:

East side of
building.

Photographer:
Jackie Mosher

Date: 10/2/97

Direction:
Looking
Southwest



No. 8

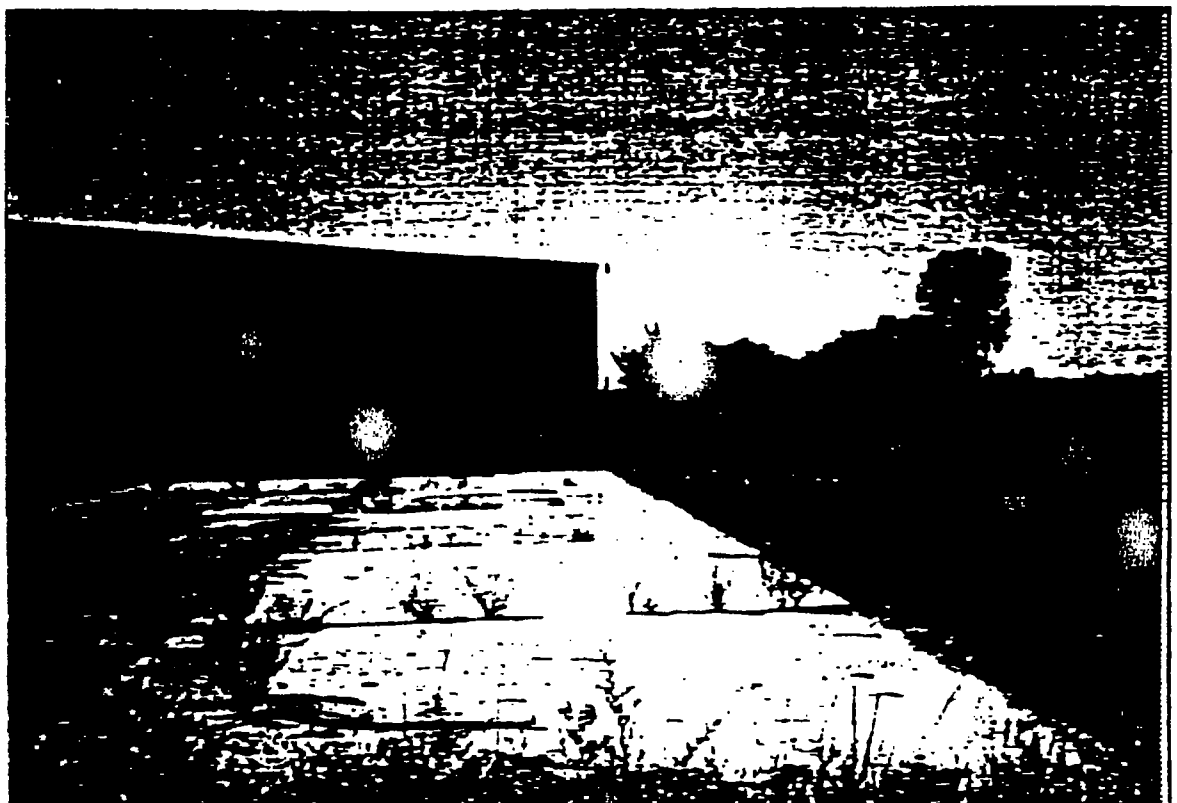
Description:

Northwest
corner of main
building.

Photographer:
Jackie Mosher

Date: 10/2/97

Direction:
Looking South



Photographic Record

CDM Federal Programs Corporation
A DIVISION OF CDM GROUP, INC.

Site Name:
Site Location:
Project Ref. No.:

Aslex Site
Council Bluffs, Iowa
WA 000-FR9-0706

No. 9

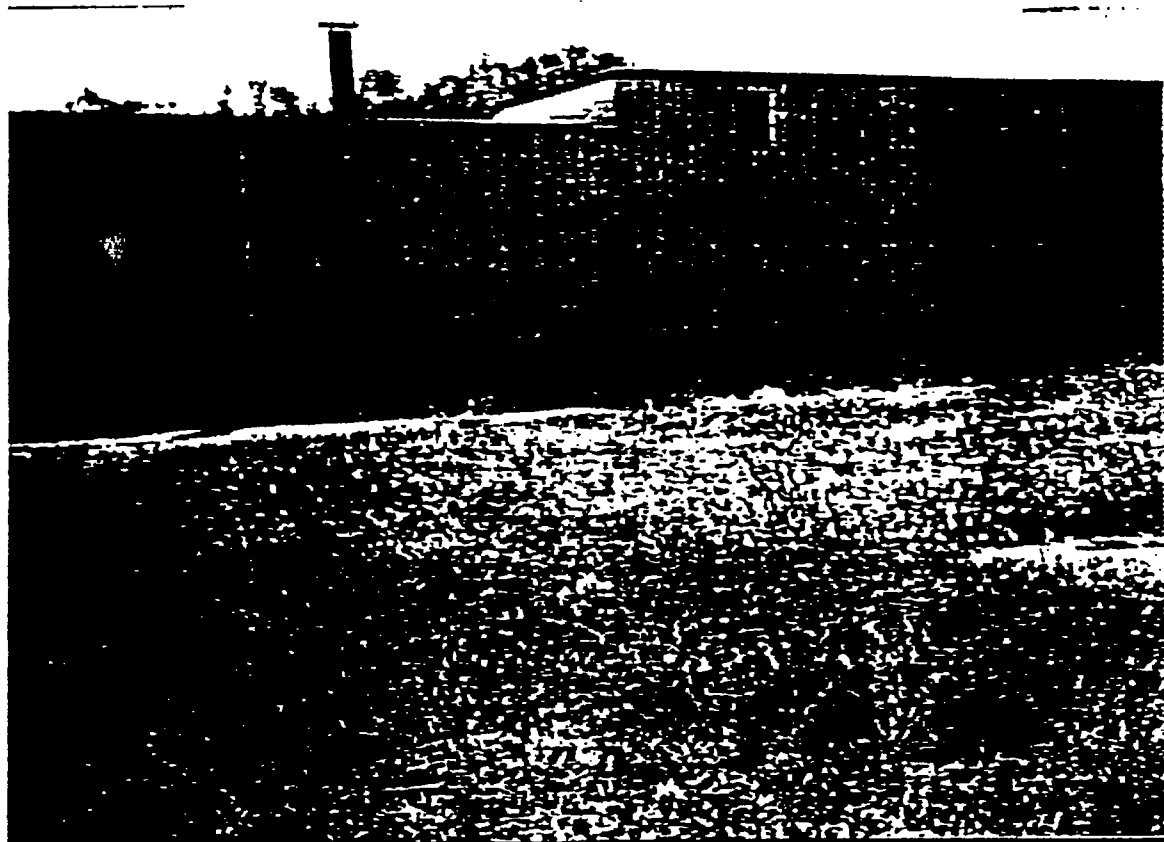
Description:

West side of
site.

Photographer:
Jackie Mosher

Date: 10/2/97

Direction:
Looking East



No. 10

Description:

Field west of
site. Wells
are sampled
in this area.

Photographer:
Jackie Mosher

Date: 10/2/97

Direction:
Looking West

